



amateur radio

Vol. 34, No. 1
JANUARY
1966

Registered at G.P.O. Melbourne, for
transmission by post as a periodical

25c

COAXIAL CABLES

UH87 50 ohm 1/4 in. diam. coaxial cable, 1/6 yd. or 31/2 per 25 yds. roll. 10/- postage.
UR43 50 ohm 3/16 in. diam. coaxial cable 15/- per 25 ft. roll.
UH1 72 ohm 1/4 in. diam. coaxial cable, 1/6 yd. or £1 per 27 yds. roll.
51 ohm RG-80 3/16 in. diam., brand new, 1/9 yd. up to 500 yard lengths.

All above cables are in a new condition.

BATTERY CHARGERS

DUAL COMPLETE WITH METER IN METAL HAMMERTONE CASE
0 volt 4 amp., 12 volt 5 amp., £15/17/6.
12 volt amp., 8 volt 6 amp., £16/17/6.

TRANSISTORISED AMPLIFIERS AND TUNERS

LAFAYETTE
PK-522 3 Transistor, single ended 50 mW. output £7/11/6
PK-543 4 Transistor, push pull, 100 mW. output £13/15/0
PK-544 5 Transistor, push pull, 250 mW. output £17/16/0
PK-601 4 Transistor, push pull, 1 watt output £17/16/0
PK-633 3 Transistor, 1 Diode, broadcast a.m. tuner £15/15/0

MICROPHONES

CRYSTAL:
Piezo Lapel Type with Plug --- 12/6
CM20 Hand Type with Plug --- 27/6
X43 Stand Type with Plug --- 27/6
BM3 Penell Type 100-5,000 c/s. with on-off switch, 6 ft. cable --- 38/-
BM3 Desk Etone to suit above --- 31/-
DYNAMIC:
Foster DF2 Hand Type 50K --- 36/6
Foster DF2 Hand Type 50 ohm --- 43/-
Foster DF3 Penell Type 50K --- 36/-
Foster DF3 Penell Type 50 ohm --- 37/0
Piezo X43 Desk Type with stand, low impedance --- 57/6

SPEAKER BOXES

Plastic Speaker Box with 4 in. Speaker and Wire --- 55/-
Wooden Speaker Box with 8 in. x 4 in. Speaker and Wire --- 65/-

GRID DIP OSCILLATORS

Lafayette TE-18 G.D.O. 8 Bands, Plug in Coils, 300 Kc.-220 Mc. 240 volt £19/15/-
Leder LDM-49 G.D.O. 9-350 Mc., 8 Bands, Plug-in Coils, 230 volt £22/5/-

CHASSIS PUNCH SET

Horan K-83 Sizes 16, 18, 21, 25 and 30 mm., complete with Taper Reamer in wooden storage box --- 70/-

TAPERED REAMERS

Horan Tapered Reamer, 3 mm., 14 mm. --- 11/-

SAKURA CIRCUIT TESTER

Model TR43
Sensitivity: d.c. 20,000 ohms/volt, a.c. 10,000 ohms/volt. Ranges: d.c. volts: 6, 30, 120, 600, 1,200; a.c. volts: 6, 30, 120, 600, 1,200. D.c. current, 60 μ A., 6 mA., 30 mA., 600 mA. Resistance: 10K, 100K, 1M, 10M ohms. Capacitance: 0.001-0.01 μ F., 0.0001-0.01 μ F. Inductance: 20-3,000 μ H. Decibels: minus 20 to plus 17 dB. 10 db.-0.01 db.-800 ohms. Dimensions: 4 1/2 x 6 1/2 x 2 1/2 in. Weight 1.3 lbs.
Price £8/10/0

LOG BOOKS 6/6 each, postage 1/-
CALL BOOKS, 6/- each, postage 1/-.

SOLDERING IRONS

"SCOPE" 6-second Soldering Iron, recommended work voltage: 4V., a.c./d.c. (100W.) 43/-
"SCOPE" de luxe model, as above, with stainless steel barrel, in plastic pouch --- 56/-
"MINISCOPE" Soldering Iron uses standard transformer, in plastic pouch --- 43/-
TRANSFORMER suitable for Scope or Birko Soldering Irons, 230v. to 2.5v. --- 38/-
"BIRKO" 6-second Soldering Iron, 4 to 6v. a.c./d.c., in plastic pouch --- 39/0
Or with transformer --- £14/4/0

SPEAKERS

WELL KNOWN MAKE, BRAND NEW, BAKERSHOP STOCK

2 in. 15 ohm 38/- 5 in. x 7 in. 15-25 41/6
3 in. 15-35 27/6 5 in. 15-25 33/0
4 in. 15-35 37/0 8 in. x 6 in. 15-25 35/0
5 in. 15-25 46/- 12 in. 15-25 83/6
5 in. 15-25 42/-

TWIN COKE SPEAKERS

5 in. Twin Coke 15w. 15 ohm --- 43/0
8 in. Twin Coke 15w. 15 ohm --- 75/0
12 in. Twin Coke 10w. 15 ohm --- 105/0

CORDOVER SOLID STATE MODULES

20 different types, p.a. amplifiers, electronic siren, burglar alarm, intercom, module, guitar, amplifier, module, push button amplifier module, wireless microphone module, and many others. Dimensions: 1 1/4 x 1 1/4 x 1 inch.

Price approx. £4 per unit
Send stamped, addressed envelope for more details.

MULTIMETERS

CENTRAL CT300 Multimeter, 20,000 o.p.v. d.c. £9/19/8
CENTRAL CT330 Multimeter, 20,000 o.p.v. d.c. £4
SANSI SE300 Multimeters, 100,000 o.p.v. d.c. £12
Multimeter Probes --- 6/-
20M Movement --- 37/8
Meter Rectifiers --- 18/-

SPECIALS

Solo Subminiature Bezels, 6-8 volt, No. 3280 complete with globe, Red or Black --- 4/-
RESIN CORE SOLDER, 16 gauge. 18/-
40/49 1 lb. packet --- 32/-
Mixed Bag of NEW Resistors, Condensers, Potentiometers, 30 Popular Types.
51 or 16/- a bag
Mixed Bag of 20 NEW Polyester and Styrofoam Capacitors. All Popular Types.
81 or 16/- a bag
Mixed Bag of 20 NEW Polyester, Paper, Mica, Ceramic and Plastic Condensers. All Popular Types.
51 or 16/- a bag
1 Henry choke for Multiband Tachometer --- 25/6
Crystal Ear piece for Transistor Radio --- 6/-
Crystal Label Microphone --- 15/6

WALKIE TALKIES

9 Transistor 160 mW. output Citizens Band, 20-240 Mc. Fully transistorised Walkie Talkies. Individual speaker and microphone. Dimensions: 7 1/4 x 2 1/2 x 2 in. Complete with batteries, earphone and leather carrying case.
£29/10/0
Inc. tax, plus freight.

ROTARY SWITCHES

3 pole, 3 position, 18/-; 4 pole, 3 position, 18/-; 2 pole, 6 position, 16/-; 1 pole, 12 position, 16/-.

RECORDING TAPES

WELL-KNOWN MAKES BRAND NEW IN CARTONS
150 fl. on 3 in. reel (Acetate Base) --- 4/-
225 fl. on 3 in. reel (Acetate Base) --- 7/6
300 fl. on 3 in. reel (Tensilised Mylar) --- 12/-
300 fl. on 3 in. reel (Tensilised Mylar) --- 16/-
500 fl. on 3 1/4 in. reel (Tensilised Mylar) 17/6
900 fl. on 5 in. reel (Acetate Base) --- 10/6
900 fl. on 5 in. reel (Mylar Base) --- 22/6
1200 fl. on 5 in. reel (Mylar Base) --- 35/-
1800 fl. on 5 in. reel (Tensilised Mylar) --- 35/-
1200 fl. on 5 1/4 in. reel (Mylar Base) --- 35/-
1800 fl. on 5 1/4 in. reel (Tensilised Mylar) 37/6
1200 fl. on 7 in. reel (Acetate Base) --- 35/-
1200 fl. on 7 in. reel (Mylar Base) --- 36/-
1800 fl. on 7 in. reel (Acetate Base) --- 36/-
2400 fl. on 7 in. reel (Mylar Base) --- 32/6
3600 fl. on 7 in. reel (Tensilised Mylar) --- 75/-
3600 fl. on 7 in. reel (Tensilised Mylar) --- 92/6

EMPTY TAPE REELS

3 in. 1/6, 3 1/4 in. 1/6, 4 in. 5/6, 5 in. 3/-; 5 1/4 in. 3/- 7 in. 5/-.
OR in Plastic Storage Box 12/-
TAPE SPLICERS. Complete with Splicing Tape and instructions --- 5/-

TRANSISTORS AND DIODES

OC44 16/- OA73 --- 4/6
OC45 16/- OA80 --- 3/6
OC70 12/0 OA90 --- 3/6
OC71 7/6 3 at £1 OA91 --- 3/6
OC72 16/- OA101/1N173 --- 3/6
OC74 12/0 OA211/Sigat8 17/0
OC75 12/0 ZENER --- 17/6
OC76 12/0 OA222/BZ11 --- 27/6
OC77 16/- OA232/BZ214 27/0

ADEL NIBBLING TOOL

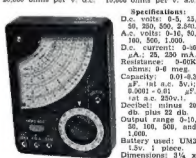
Designed to cut round or square holes in sheet metal, with instructions --- 75/-

HI FIRE TRANSISTORISED IGNITION SYSTEM

6 OR 12 VOLT
POSITIVE EARTH --- £28
NEGATIVE EARTH --- £25

MULTIMETER Model 200H

20,000 ohms per v. d.c. 10,000 ohms per v. a.c.



Specifications:
D.c. volts: 0-5, 25, 50, 250, 500, 2,500.
A.c. volts: 0-10, 50, 100, 500, 1,000.
D.c. current: 0-30 μ A., 25, 250 mA.
Resistance: 0-50K ohms; 0-4 meg.
Capacity: 0.01-0.3 μ F. int. a.c. 5V.
0.0001-0.01 μ F.
1 μ F. at a.c. 250V.
Decibels: minus 20 db. plus 22 db.
Output range 0-10, 20, 100, 500, and 1,000.
Battery used: UM3 1.5v. 1 piece.
Dimensions: 3 1/4 x 4 1/4 x 1 1/8 in.

Complete with internal battery, testing leads and probes.
Price £5/12/6 inc. tax.
Packing and Postage 3.6

HAM RADIO SUPPLIES

5A MELVILLE STREET, HAWTHORN, VICTORIA Phone 86-6465

North Balwyn tram passes corner. Money Orders and Postal Notes payable North Hawthorn P.O.
We sell and recommend Leader Test Equipment, Pioneer Stereo Equipment and Speakers, Hitachi Radio Valves and Transistor Radio, Kew Brand Meters, A. & R. Transformers and Transistor Power Supplies, Ducon Condensers, Welwyn Resistors, etc.

"AMATEUR RADIO"

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA. FOUNDED 1910.

JANUARY 1966

Vol. 34, No. 1

Editor:

K. M. COCKING VK2ZFQ

Assistant Editor:

K. E. Pincott VK3AFJ

Publications Committee:

G. W. Bate (Secretary) VK3AOM
A. W. Chandler (Circulation) VK3LC
S. T. Clark VK3ASC
E. C. Manifold VK3EM
W. E. J. Roper VK3ARZ

Draftsmen:-

Ken Gillespie VK3GK
Clem Allen VK3IV
Ian Smith 36 Green St., Noble Park

Advertising Enquiries:

C/o P.O. Box 36, East Melbourne, C.2, Vic.
Mrs. BELLARE, Phone 41-3535, 475 Victoria
Parade, East Melbourne, C.3, Victoria. Hours
10 a.m. to 3 p.m. only.

Publishers:

VICTORIAN DIVISION W.I.A.,
Reg. Office: 55a Franklin St., Melbourne, Vic.

Printers:

"RICHMOND CHRONICLE," Phone 42-2418,
Shakespeare St., Richmond, E.1, Vic.

★

All matters pertaining to "A.R." other than subscriptions, should be addressed to:

THE EDITOR,
"AMATEUR RADIO,"
P.O. BOX 38,
EAST MELBOURNE, C.2, VIC.

Acknowledgments will be sent following the Committee meeting on the second Monday of each month. All Sub-Editors should forward their articles to reach "A.R." before the 8th of each month. Any item received after the Committee meeting will be held over until the next month. Publication of any item is dependent upon space availability, but in general about two months may elapse before a technical article is published after consideration by the Publications Committee.

★

Members of the W.I.A. should refer all enquiries regarding delivery of "A.R." direct to their Divisional Secretary and not to "A.R." Secret. Non members of the W.I.A. should write to the Victorian Division, C/o P.O. Box 38, East Melbourne. Two months' notice is required before a change of mailing address can be effected. Readers should note that any change in the address of their transmitting station must, by P.M.G. regulation, be notified to the P.M.G. in the State of residence. In addition "A.R." should also be notified. A convenient form is provided in the "Call Book".

★

Direct subscription rate is 30/- a year, post paid, in advance, issued monthly on the first of the month, January edition excepted.



AND BEST WISHES
FOR
CHRISTMAS
AND
THE NEW YEAR

CONTENTS

A Band - Switched All - Triode Converter	3	Australian V.h.f. Century Club Award	11
Single Package Transmitter for 160 and 2 Metres	4	Australian D.X.C.C. Countries List	12
More About Morse	7	Correspondence	15
Hints and Kinks: Protective Cover for SO239 Connector	8	SWL	15
New Call Signs	8	Sideband	17
Publications Committee Reports ..	8	DX	18
A Self Powered C.W. Monitor ..	9	VHF	19
Australian DX Century Club Award	11	Youth Radio Scheme	19
		Federal and Divisional Monthly News Reports	20

SITUATIONS VACANT

ULTRA-MINIATURISATION

We are seeking two young men with a keen interest in Solid-state Electronics to train in Hearing Aid Servicing

EXCELLENT CONDITIONS

GOOD FUTURE

Apply to the Manager: **HEARING SERVICE,
6th FLOOR, BOURKE ST.
Phone 661-3934**

MYER (MELBOURNE) LIMITED

SIDEBAND ELECTRONICS ENGINEERING

P.O. BOX 23, SPRINGWOOD, N.S.W.

Phone 51-1394

The latest models GALAXY V. and SWAN SW-350 Mark III. all-band S.S.B. TRANSCEIVERS, £300, including heavy-duty 240v. a.c. supply/speaker unit in matching cabinet. 12 volt d.c. Mobile Power Supplies, £45 to £55.

All-band Webster Bandspanner Mobile Whips, incl. bumper or body mounting assembly, £24.

The following HY-GAIN ANTENNAE in stock or sailing:—

4-band 10-40 mx trapped vertical, 14AVQ, £22, 20 ft. tall, no guys.

5-band 10-80 mx trapped vertical, 18AVQ, £35, 33 ft. tall, must be guyed.

3-band 10-20 mx 3-element Yagi, TH3JR, £48.

3-band 10-20 mx 3-el. senior Yagi TH3 Mk. 2, £70.

Other types of Hy-Gain Beams on special order: 2-band 20-40 mx Yagi, DB24A, £120. 3-band 10-20 mx 6-element Yagi, TH6DX, £100.

Antenna Rotators, C-D Ham-M, senior model, £85. Alliance U-98, see recent "QST" ads., £27/10/0.

Five-position Co-axial Switches, with six Amphenol SO239 sockets, £4/10/0.

Autronic Automatic Keyers, fully transistorised, no relays, £35.

Crystals, 8 and 9 Mc., 15/-. Jackson Bros. Vernier Dials and Vernier Assemblies, perfect to add 1:6 vernier on any 1" shaft, see applications in recent "QST" articles, with 2" knob and mounting ring, 22/-. Air trimmers with extension shafts, combination S.W.R. power output meters, SO239 and PL259 co-ax. connectors, mobile whip mounting brackets and units.

Perfect used Collins 12v. d.c. mobile supply and KWM-2 mounting bracket, £75. Collins noise blander, £25.

A BAND-SWITCHED ALL-TRIODE CONVERTER

GREG. JOHNSTON,* B.Sc.

HAVING always been somewhat of a "fiddler," and since my s.w.l. status does not allow me to fiddle effectively with other than receivers and receiver techniques, it is not surprising that we finally got to the stage of bread-boarding a receiver front end embodying circuitry which was once the acme of v.h.f. receiver technique in circuitry. It is stressed right from the start that my shack does not contain an abundance of test equipment in the form of noise generators and other such sophisticated pieces which makes the results obtained with the final article described very surprising (to me anyway!).

As the circuit will show, the r.f. stage finally settled on by trial and error is a 6ES8 non-neutralised series cascade¹ coupled into a second twin triode, this time a 12AT7, as a "Like New Mixer,"² while r.f. for conversion to the 3.5 Mc. i.f. is obtained from a 6C4 overtone crystal oscillator.

It is realized that the series cascade circuit has little advantage over a good pentode r.f. stage up to about 30 Mc. In terms of signal to noise ratio, however it is certainly less critical to adjust and is also less susceptible to cross modulation—a most important characteristic around my Amateur saturated QTH. In fact the 6ES6 offers a significant amount of extra usable gain when strong local signals would ride in on a pentode.

A neutralising coil between pins 1 and 8 may provide an instrument-detectable improvement in signal to noise ratio but is not used in my own case. A.v.c. can easily be applied to the first triode section if desired; it introduced no "bugs" here when applied. The circuit changes required are very minor and they may be useful in some situations. However, the author understands that without a.v.c. only stronger or local s.s.b. stations will block the converter—the i.f. a.v.c. handles the situation adequately in other cases.

Moving on to the mixer stage, the 12AT7 forms the real heart of this particular converter—the authors of reference 2 make many claims on its behalf—in this case just for a change they were so well based that even this author was able to verify them in practice after some initial troubles with excessive oscillator voltage which did produce many spurious responses. It was also found that even higher oscillator voltages led to complete blocking. Two points well worth watching.

The really notable operative feature of this circuit though is summed up by this quote from the reference article: "Its noise figure is so low that mixer noise simply disappears even with three i.f. stages following. The result is almost complete silence between stations, leading one to believe at first

that the circuit is a dud. Then, though, a fading long-hop signal will come through, moving almost instantly out of the no-signal region into clear audibility . . . As with the r.f. stage, this circuit is not prone to cross-modulation in all but the most severe of cases, while its cathode follower output is very overload-tolerant so that mixer distortion does not appear.

During the course of fiddling, many varieties of oscillator circuits have been tested, but basically due to lack of a good dial drive a crystal locked overtone circuit was finally employed.³

The high impedance converter output is taken off in the 3.5 Mc. range and fed to the tunable i.f. via a yard long co-ax. cable.

The coil data shown was drawn from reference 3 to standardise the coil former size—my own coils are wound on a variety of formers which were to hand. It will probably be found that the VK2JZ data for mixer coils will result in resonance slightly higher than the desired frequency due to the very low input capacity of the 12AT7. Treatment here is symptomatic—add a few extra turns and prune to the desired frequency.

Having gone this far, the results of a few empirical (i.e. no instrument) tests may be of interest. A most effective test of sensitivity was made by tuning the converter to 28 Mc., removing the antenna and replacing it with a 75 ohm resistor (i.e. equal to feed-line impedance), then rocking the slug of the r.f. stage through resonance with the result that the noise peaked as the slug resonated the r.f. coll. If you reckon your own receiver is sensitive on 10 mc. then try this test—it may be enlightening.

At this stage, having demonstrated to my own satisfaction at least, the very adequate sensitivity of the converter, an equally savage on-air test

of signal to noise ratio was arranged. The trial horse was a first class AR88 (not mine) which was tuned to a 40 mx signal—the converter was tuned to the same signal per a tunable oscillator it then sported. Even the owner of the AR88 freely admitted the superiority of the converter combination noise-wise—enough said.

A possible oscillator arrangement which, with adequate construction, care and compensation, would appeal to many would be to use a fixed i.f. of 3.5 Mc. and an oscillator range of 10.6-10.85 Mc. to tune 7.0-7.35 and 14.0-14.35 Mc., and 24.5-25.0 Mc. to tune 21.0-21.5 and 28.0-28.5 Mc. with appropriate r.f. and mixer coil switching. This idea was briefly employed initially but discarded for the reasons stated earlier.

In summary, it looks as though my urge to fiddle will be directed other than towards a new converter for some time hence. Meanwhile, I can sit back and read those S2 or S3 signals on 20 and 15 metres. Can you?

COIL DATA

All coils are wound on 7/16 inch diameter slug-tuned formers, with the r.f. primary (L1) spaced 1/16 inch from the secondary (L2).

7	Mc.	L1-4	turns, 22 B. & S.
		1-2-55	12 12 12 12
		1-3-56	12 12 12 12
		1-4-56	12 12 12 12
14	Mc.	L1-4	turns, 22 B. & S.
		1-2-55	12 12 12 12
		1-3-56	12 12 12 12
		1-4-56	12 12 12 12
21	Mc.	L1-4	turns, 22 B. & S.
		1-2-55	12 22 12 12
		1-3-56	12 22 12 12
		1-4-56	12 22 12 12
28	Mc.	L1-4	turns, 22 B. & S.
		1-2-55	12 22 12 12
		1-3-56	12 22 12 12
		1-4-56	12 22 12 12

CIRCUIT NOTES

AVCI—Only needed with a.v.c. connected, otherwise L2 goes direct to pin 2.

XTAL3—Crystal Frequencies:

Fund. Math.

42 mm: 3250 kg. x 2

20 mat: 5250 No. K. 2

15	max:	5833	ko.	x	9
16					

10 ттх: 3193 кв. м 3

* Mather, A. S., "A Broad Band, Bandswitched, Crystal-Locked Converter," "Amateur Radio," June 1963, p. 2-3.

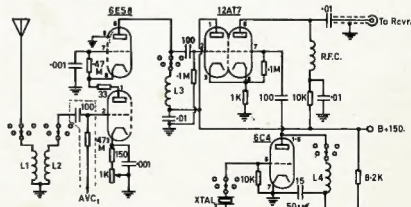


FIG. 1.

* 3 Inglis Street, Newtown, Hobart, Tasmania.

¹ Parsons, Warwick W., "The S-S'er Mark II."

"Amateur Radio," November 1958, p. 7.

* Reprint from "73" Magazine, "Amateur Radio,"
June 1962, p. 4-5.

Single Package Transmitter for 160 and 2 Metres*

Developed by D. W. FURBY, G3EOH

THE design of the dual band transmitter to be described takes full advantage of the newly introduced power pentode type 7558. This valve, with an anode dissipation of 10 watts up to a maximum frequency of 175 Mc., may, from an Amateur point of view, be considered as an improved version of the popular 5763.

By an ingenious arrangement of the tuned circuits, no actual switching of the tuned circuits takes place when changing bands. As a result, not only is the efficiency of the various stages improved, especially at v.h.f., but in addition, construction is simplified.

The transmitter will run an input of 15 watts to 2 mx, but on 160 mx the input to the p.a. is restricted to 10 watts to meet the official power limitation in England.

Only the r.f. assembly is dealt with here since there are many published circuits of suitable modulators. An output of 8 watts will be adequate to modulate the carrier fully on 2 mx and have plenty of power in reserve for 160 mx.

CIRCUIT

Prior to examining the circuit (Fig. 1) in detail, it may be as well to review the functions of the individual valves in relation to the final frequencies. When operating on 1.8 Mc., V1 is not used, V2 functions as a Clapp variable frequency oscillator, V3 as a buffer amplifier, and V4 as the p.a. When operating on 144 Mc., V1 becomes a Colpitts crystal oscillator, V2 a frequency tripler, V3 a frequency doubler; V4 is of course the p.a.

As already mentioned, V1 only comes into operation when the transmitter is set for 144 Mc. The valve, a 6BW7, is

* Reprinted from R.S.G.B. "Bulletin," Sept. '68.

used in a familiar Colpitts configuration in which the crystal oscillates on its fundamental frequency in the grid/cathode circuit with the screen grid forming the "anode" by-passed to r.f. The true anode of the valve is tuned to one of the harmonics of the crystal, in this case the third, which, with an 8 Mc. crystal, provides drive to the following stage at 24 Mc.

It will be noted that the cathode of V1 is returned to the centre of a capacity divider between grid and earth, the values of which depart from those usually associated with this circuit. In addition, the d.c. return of the cathode of the valve is via a resistor which replaces the r.f. choke normally fitted.

Experience with this type of oscillator used to drive v.h.f. transmitters is that it has a natural tendency to make the final frequency lower than that which would be expected from the simple arithmetic of multiplying the crystal frequency by the frequency multiplication factor. In practice this means that the parallel capacity across the crystal, whether intentional or stray, must be kept well within the normal 30 pF. limit.

The foregoing observations are pertinent to this design since the effective capacity across the crystal given by C1 and C2 in series amounts to 60 pF. This will be further increased by circuit stray capacities. The effect will be to cause the final frequency to be substantially lower than that expected from simple calculations. If specific final frequencies are required, crystals will have to be ordered to operate with a parallel capacity of 70 pF. Alternatively, C1 should be reduced to the usual value of 30 pF. and C2 to 100 pF. If the circuit then fails to oscillate with a resistive cathode load, R2 will have to be replaced with an r.f. choke.

The output from V1 is, for 144 Mc. operation, coupled via S1 to V2. The entire bandchanging operation is accomplished by S1, no other switching being required.

When V2 is operating as a tripler, drive is applied to its grid via S1. It should be noted that the grid leak, R3, is not returned to earth in the usual manner, but is connected to the cathode of V2, and that the resistor in the cathode of V2 (R4) is not a bias resistor, but is associated with the function of this valve when it operates as a Clapp v.f.o. on 1.8 Mc. This resistor, R4, does not have any degenerative effect when the valve operates as a multiplier since it is by-passed by C10 which forms part of the capacity divider of the v.f.o. circuit. Since R4 contributes no bias voltage to the valve, all the bias for the tripling operation is developed by the grid current through R3. If the drive fails, therefore, there could be a danger of the anode current of V2 running up to destruction levels. Since R4 in the cathode circuit is fairly large in value, the consequent voltage drop across this resistor under such conditions would automatically reduce the h.t. appearing across the valve and so limit the current. Nevertheless, V2 should not be operated without drive when switched to the 144 Mc. position.

The anode circuit of V2 when operating as a frequency multiplier is tuned to 72 Mc. The tuned circuit is unusual in that it is a pi-coupler, the shunt capacities of which are the output capacity of V2, and the input capacity of V3. Since the coil is resonated by these two capacities in series, the net capacity will be very small. This permits the use of a relatively large inductance, which, in itself, achieves broadband coverage so dispensing with the need for direct tuning. At this

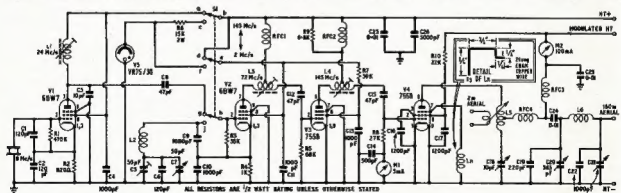


Fig. 1.—The circuit of the transmitter for operation on 160 and 2 metres.

- L1-16 turns, 26 s.w.g. enamel, wound on Aladdin former 5061, with dust iron core.
- L2-20 turns, 36 s.w.g. enamel, close wound on 1/2 in. former.
- L3-21 turns, 16 turns from anode end, 20 s.w.g. enamel, wound on Aladdin former 5061, with brass core.

- L4-4½ turns, tapped 3¼ turns from anode end, 30 s.w.g. enamel, wound on Aladdin former 5061, with brass core.
- L5-5 turns, tapped 2¼ turns from anode end, 30 s.w.g. enamel, 1/2 in. diam., 1/2 in. long, self supporting.

- L6-36 turns, 18 s.w.g. enamel, 1½ in. diam., 2 in. long.
- RF C1, RF C2-220 mH., Cambion type 2082-10.
- RF C3-2.5 mH.
- RF C4-40 turns, 39 s.w.g. e.s.s., wound on Aladdin former 5061, no core.

junction it should be particularly noted that this coil L3 has a point of zero r.f. potential—namely the physical centre of the coil—and use is made of this as will be seen.

When the transmitter is switched for Top Band operation, S1 converts V2 into a Clapp variable frequency oscillator by connecting the grid to the tuned circuit, L2, C5, C6, C7, and the capacity divider C9, C10. In addition, the voltage regulator V5 is switched into circuit, and the screen supply for V2 connected to this instead of directly to the h.t. line. This stabilises the operation of the v.f.o. and reduces the effect of variations in h.t. on the operation of the oscillator.

Mention has been made of the point of zero r.f. potential on L3. It is at this point that the h.t. is fed to V2 when it operates as a frequency multiplier, and the same point to which the load for the output of the v.f.o. is connected. The output load for the v.f.o. is RFC1. To the output frequencies of the v.f.o. L3 is just another piece of wire, and it has no effect upon the operation of the circuit. Thus the coupling capacitor C12 is effective for both frequencies.

V3 operates either as a frequency doubler, or as an untuned buffer.

For 144 Mc. operation, the output of V2 is coupled to V3 by a pi-network and C12, and V3 operates as a frequency doubler from 72 Mc. to 144 Mc. Like V2, V3 relies on grid current through its grid leak, R5, to give it the correct operating bias. The anode circuit of V3 consists of another pi-network similar to that in the anode of V2 except that it is tuned to 144 Mc.

When switched to Top Band operation, the screen grid of V3, which now operates as an untuned buffer amplifier, is connected to the stabilised supply instead of directly to the main h.t. Its output is thus reduced. Even with this procedure, the drive to the p.a. is still too high, and so a damping resistor is fitted across the r.f. choke anode load RFC2.

The load, V4, follows the practices established in the preceding stages. Grid current through the grid leak R8 provides the correct operating condition and a pi-network is used for the v.h.f. output, while the output circuit for Top Band is connected to the point of zero r.f. potential on this pi-network.

NOTES ON P.A.

There are one or two points which require special note in relation to the p.a.

First, since the valve is operated as a straight amplifier at v.h.f., it will require neutralising. In this circuit suppressor grid neutralisation is employed. This simply consists of an inductance connected in the suppressor grid return lead, and is shown in Fig. 1. While it would be possible to employ capacity neutralisation from the top of C18 back to the grid, the method shown is far easier to adjust and is more stable over a wider range of frequencies.

It must be particularly noted that two decoupling points are used on the screen grid of the p.a. valve. It is essential, if degeneration is to be avoided, that the screen grid has a low r.f. impedance to earth. To assist in

this, both of the pins of the valve to which the screen grid is connected are by-passed individually.

The v.h.f. tank circuit is a pi-network tuned in this case at its "far end" by a 10 pF. variable capacitor C18. To this coil is fitted a variable link from which the 144 Mc. output is taken.

To the centre of the v.h.f. pi-network is connected a v.h.f. choke, RFC4. Note that the point to which this choke is connected to the coil is not by-passed. This is correct and not an omission. It is bad practice to by-pass this point in any v.h.f. tank circuit, and in this case it would be disastrous, as it would "drain off" the Top Band output.

The Top Band output circuit is a familiar pi-network connected to the centre of the v.h.f. tank circuit via the blocking capacitor C24 and the v.h.f. choke RFC4.

Metering in the transmitter is limited to measuring the p.a. grid and anode currents, and this is quite adequate. Indeed, a single meter could be used suitably shunted and switched.

HEATER WIRING

The power rating and power requirements of this transmitter make it particularly suitable for mobile operation, in addition to fixed station usage. For this reason, heater wiring is not shown. When operated on 6.3v., the heaters of the valves should all be in parallel.

When operated from a 12v. nominal source, such as a car battery, V1 and

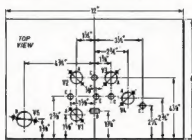
V2 should be wired in series, with pin 4 of V1 earthed, and pin 5 of V2 connected to the 12v. supply. Similarly, V3 and V4 should be wired in series with pin 5 of V4 earthed, and pin 4 of V3 to the supply. Pin 4 of V4 should be decoupled with a 5,000 pF. capacitor using very short leads. The two live leads from V2 and V4 are terminated on a 1,000 pF. feed-through capacitor, the far side of which provides an anchor point for the incoming heater supply.

CONSTRUCTION

The transmitter is laid out on a chassis measuring 12" x 8" x 2½" deep. In view of the difficulty of obtaining satisfactory earth connections to aluminium, this material should be avoided. Tinned steel or cadmium plated steel is far more satisfactory, or even sheet brass if one does not mind the somewhat higher cost. In actual fact the size of the chassis specified is quite a bit larger than that needed for just the r.f. section, and sufficient room has been allowed to accommodate both a modulator and power supply.

Fig. 2(a) shows the drilling layout of the chassis, while Fig. 2(b) details the panel layout and the two screens needed in the construction shown in Fig. 2(c). It should be noted that these diagrams do not make provision for power supply or modulator components.

All components associated with the operation of the transmitter on 144 Mc. should have leads as short as possible. The position of components associated with operation on 1.8 Mc. is, on the other hand, relatively unimportant.



JOYSTICK VARIABLE FREQUENCY ANTENNA 1.5-30 Mc.

The world's most versatile and compact h.f. band antenna for transmission and reception. More than 4,000 stations throughout the world are equipped with the Joystick and associated A.T.U. Testimonials pour in, takes a kilowatt and favours the DX. Overall length 7 feet 6 inches.

ORDER NOW!

Joystick Antenna, standard make (aluminium elements)	£17/7/0
Joystick Antenna, de luxe make (all copper elements)	£9/9/0
Joymatch A.T.U. Type 2 for receive only on b.c. bands	£5/15/0
Joymatch A.T.U. Type 3 for receive and transmit (low power and mobile)	£3/15/0
Joymatch A.T.U. Type 5 for transmit only (rated 150 watts)	£2/10/0
Mobile Mounting Kit (converts existing Joystick for mobile mounting)	£3/13/0
RF40 Field Strength Meter (magnetic base, 1-250 Mc. coverage)	£6/10/6

Send for descriptive literature and testimonials, including the outstanding performance of the Joystick used by ZLAGA who W.A.C. in one day and QSO'ed GSWP and VE1BIY on 3.5 Mc. W7OE says the Joystick equals half-wave dipoles and similar conventional antennae on 160, 80 and 40 and has proven superior to them in the 15 and 30 metre bands.

PENNANT IMPORTS (ELECTRONICS) CO.

P.O. BOX 177, ASHFIELD, N.S.W.

For Reliable Connections

OTL RESIN CORE SOLDERS

O. T. LEMPRIERE & CO. LIMITED

Head Office: 27-41 Bowden Street, Alexandria, N.S.W.
and at Melbourne • Brisbane • Adelaide • Perth.



OTL/MS

DURALUMIN, ALUMINIUM ALLOY TUBING

IDEAL FOR BEAM AERIALS AND T.V.

★ LIGHT ★ STRONG ★ NON-CORROSIVE

STOCKS NOW AVAILABLE FOR IMMEDIATE DELIVERY

ALL DIAMETERS— $\frac{1}{4}$ " TO 3"

Price List on Request

STOCKISTS OF SHEETS—ALL SIZES AND GAUGES

GUNNERSSEN ALLEN METALS PTY. LTD.

**SALMON STREET,
PORT MELBOURNE, VIC.**

Phone: 64-3351 (10 lines)
Telegrams: "Metals," Melb.



**HANSON ROAD,
WINGFIELD, S.A.**

Phone: 45-6021 (4 lines)
Telegrams: "Metals," Adel.

LOW DRIFT CRYSTALS

FOR

**AMATEUR
BANDS**

ACCURACY 0.01% OF
STATED FREQUENCY

3.5 and 7 Mc.

Unmounted, £2/10/0

Mounted, £3/0/0

**12.5 and 14 Mc.
Fundamental Crystals,**

"Low Drift"

Mounted only, £5.

THESE PRICES DO NOT
INCLUDE SALES TAX

Spot Frequency Crystals
Prices on Application.

Regrinds £1/10/0

MAXWELL HOWDEN

15 CLAREMONT CRES.,
CANTERBURY, E.7,
VICTORIA

THE NEW "A.R."

LOG BOOK

IS NOW AVAILABLE

Larger, spiral-bound pages
with more writing space.

Price 7/6 each
including Postage

Obtainable from your Divisional
Secretary, or W.I.A., P.O. Box 36,
East Melbourne, C.2, Victoria.

MORE ABOUT MORSE

KENNETH L. GILLESPIE,* VK3GK

ANYONE can learn Morse. It needs only practice and the will to learn. It is a language of sounds like any other, but as the total number of these is in the order of forty plus, it is infinitely easier than French, German or—ugh—Latin.

Morse has been the greatest stumbling block ever to the full licence and looks like going on that way because of the difficulty in getting sufficient practice.

Practice is essential and the ideal is short periods, often, preferably several times a day, but at the very least, daily.

Apart from the good work done by the W.I.A. slow Morse sessions and a couple of individual Amateurs who transmit practice material, there does not seem to be much help about. Again the times of slow Morse transmissions may not always be convenient for many. There is a good W.I.A. tape service available but, then, not everyone has a tape machine so the would-be Morsee is left with trying to find something suitable on his receiver when he has a few moments to spare and usually ends up thoroughly disheartened because the commercials seem too fast.

There is no need to start running up the wall as there is one service that provides ideal learner practices, but you need to know where to find it and how to identify it when you hear it.

It is known as the Maritime Long Distance (H/F) Radio Telegraph Service and consists of bands of frequencies (most of them harmonically related) with a ship calling frequency, two small segments of ship working channels and a larger segment of coast station working frequencies. It is this latter we are interested in.

The service works like this. The coast stations and ships all listen to the calling frequency and when a ship wants to call a coast station he first listens to the station on his working frequency (which is always in use) and if he can hear it, calls on the calling frequency, and on establishing contact shifts to his own working frequency. For ship to ship they contact on the calling wave and shift to their respective working frequencies.

It is the "always in use" business of the coast station frequency that we want. The station, depending on the season and time of day, occupies several bands simultaneously sending nothing but CQ's (or V's) and their call sign over and over and over again. This not only keeps their channel clear, but if a ship can hear it he knows that he stands a good chance of being heard also. Now here we have plenty of practice material, all the figures and letters of the alphabet repeated for as many times as we care to listen. The list of frequency bands will show where to start looking for calls. When a signal is heard the beginner should wait until he can hear either a series of V's or

CQ's and then identify one letter at a time of the call and on each succeeding repetition listen to the original letter(s) and identify a further one.

Incidentally, coast stations have three-letter calls while ship stations have four. Coast stations often suffix their calls with one or more numerals to indicate the bands in use at that moment. A call may be sent as follows: CQ CQ CQ DE VIX/3/4/5 VIX-3/4/5 VIX3/4/5 or alternatively, VVV VVV DE ZLW6/8/12 ZLW6/8/12 ZLW6/8/12.

One of the best all round bands is the 8 Mc. and without trying hard I have heard quite a few countries. The list of some stations and their frequencies is included to give some idea of where to find one with respect to another. In addition as recognition becomes easier, traffic lists make good practice material. Coast stations, at hourly intervals (as a rule) and staggered times, send lists of ships for which they have traffic. Each call sign is sent twice so that, for our purpose, we can check that what we have identified is correct.

While any nationality has traffic for all ships, it will naturally have most for its own and of the remainder, more will belong to the major mercantile fleets of the world. For instance, VIS (Sydney Radio) will have a lot of G's and M's of Great Britain, J's of Japan, but most will be VJ, VK, VL, VM of our own with a sprinkling of HO and HP, I, K, L, P, S and W with only isolated calls for other ships. With call signs, traffic lists and perserverance (i.e. small sessions frequently—and don't let it get you down so that you throw in the towel), confidence and speed will come easily and before long the tyro has actually learned his code. He will be able to take weather reports, news sessions and the like as easily as hearing someone speaking.

Come on you Z calls, get cracking, and I will see you on the d.c. bands sometime.

COAST STATION WORKING FREQUENCY SEGMENTS

4238 to 4368 Kc. 12714 to 13130 Kc.
6357 to 6525 Kc. 16952 to 17290 Kc.
8476 to 8745 Kc. 22400 to 22650 Kc.

THE COMPLETE 8 Mc. BAND

8265-8354 Kc.—Passenger ship working.
8354-8374 Kc.—Calling band with 8364 as the calling and distress frequency.
8374-8476 Kc.—Cargo ship working.
8476-8745 Kc.—Coast station working.

For interest, with the exception of the 22 Mc. band, all calling frequencies are harmonically related, viz. 4182, 6273, 8364, 12546, 16728 and 22245 Kc.

SOME COAST STATION FREQUENCIES (Kc.)

8478-VIX and VHP Sydney; OST4 Ostende.
8482-DAN Norddeich; JCU.
8486-WOE Lantana; DZR Manila.
8490-NPN Guam; IBQ.
8495-PZN Paramaribo, Surinam.
8498-SAG4 Gottenborg; NSS Washington.
8502-IQX Trieste; XSG Shanghai.
8510-IDRA Rome.
8511.5-DAL Norddeich.
8514-WSL New York.
8522-VIS26; FFL4 St. Lys., France; JOR.
8526-WAX Ojus.
8538-PJK3.
8542-PUS.
8546-GKN Fortishead.
8554-ZLB Awarus; CKN4 Vancouver.
8557-SPEA Szecheni (Stettin).
8558-KFS San Francisco.
8562-PC2 Schenvenigen.
8566-VPS Cape D'Aguilar (Hong Kong).
8570-WNU Sildell.
8574-LGB Bergen; HJU Buenaventura.
8582-KLB Seattle; XSW Kaohsiung, Tai-wan.
8586-WCC Chatham.
8590-KOK Los Angeles.
8594-GYR Malta.
8602-HEZ.
8606-KSE Torrance.
8610-WSC Tuckerton; DZE Manila.
8614-CKN Vancouver; GYC4 Whitehall.
8618-KPH Bolinas.
8630-GYS Singapore.
8634-SPH4 Gdynia.
8642-KPH Bolinas.
8646-IPD86 Buenos Aires; DZG Manila.
8650-ICE Genoa.
8654-PC4 Schenvenigen; JCS Chosil.
8658-WSL New York.
8660-DHS Rugen.
8662-VIS Sydney; CFH Halifax.
8666-KLC Galveston.
8670-IAR Rome.
8674-FPP3 Fort De France, Martinique.
8678-LFB Bergen; ZLP4 Wellington Naval Radio.
8682-EAD3 Aranjuez, Spain.
8688-JCT Chosil.
8690-VRP Suva.
8694-JZS3 Hollandia; PJC Curacao, Neth. Antilles.
8698-FJP8 Noumea.
8702-ZLW Wellington; NBA Balboa.
8706-JOS Nagasaki.
8714-KTK San Francisco; XSX Keelung, Formosa.
8718-VPW Singapore.
8726-OFJ Helsinki.
8730-CUB Madeira.
8742-HLP2 Pusan, Korea.

* Post Office Box 5, Clayton, Vic.

SINGLE PACKAGE XMITTER FOR 160 AND 2 METRES

(Continued from Page 5)

of the grid resistors of V2 and V3 should be temporarily disconnected.

Switch the transmitter for 144 Mc. operation and insert V1 and V2 into their sockets. Fit a suitable 8 Mc. xtal to the xtal socket. Switch on heater supply and apply h.t. to V1 only. With a meter set to its 2 mA. range, connected from the earthy end of R3 to the cathode of V2, adjust the core of L1 for maximum current indication on the meter. This should be about 1.2 mA. operation when the core of L1 just starts to enter the winding.

Disconnect the h.t., re-connect R3 to the cathode of V2, and restore the h.t. supply connections to V2. Insert V3 and temporarily break the connections taking h.t. to the anode circuit and screen grid of this valve.

of the link until the p.a. draws 60-65 mA. Check the dip in anode current by tuning C18 slightly as the link is swung into position. If C18 has to be varied considerably from its initial setting as the link is progressively coupled to the p.a. tank circuit, look for a mismatch in either the dummy load or the aerial. In this respect an s.w.r. bridge will be found a useful adjunct. Once the p.a. is loaded, re-adjust L4 for maximum grid drive to V4.

To set up the transmitter for 1.8 Mc. operation, the first adjustments relate to the v.f.o.

Switch off the power and set S1 for 1.8 Mc. operation. Apply power via the stabiliser to the v.f.o. only. Set C7 to minimum capacity. Adjust C5 until the oscillator frequency is precisely 2 Mc. Set C7 to maximum capacity. Check the lower frequency to which the v.f.o. has now tuned. This will be below 1.8 Mc. Reduce the in-

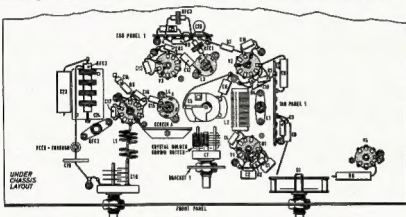


Fig. 4.—Positions of the sub-chassis components. Ample space is left for the inclusion of a simple modulator.

Connect the meter between the earthy end of R5 and chassis. Apply power to V1 and V2. Tune the brass slug of L3 for maximum grid current to V3. This should be of the order of 1 mA. Check that the frequency to which L3 is tuned is 72 Mc.

Remove the power, re-connect R5, and restore the h.t. supplies to V3. Insert V4 and disconnect the lead marked "modulated h.t." in Fig. 1 from the modulation transformer or the h.t. supply.

Apply power and tune L4 by means of the brass slug until maximum current is indicated on the grid current meter of V4. This should be about 0.2 mA. Check the frequency present in L4 by means of an absorption wavemeter.

Remove h.t. from the transmitter and restore the h.t. connection to the p.a. valve, V4.

Apply h.t. to the whole transmitter and rapidly tune C18 for maximum dip in the anode current to V4. Remove the h.t. Bring a wavemeter within reasonable distance of L5, apply power and quickly check that this circuit is tuned to 144 Mc.

With either an 80 ohm dummy load or a 144 Mc. aerial connected to the link winding of L5, adjust the position

of L2 by removing one turn at a time until the oscillator frequency is 1.8 Mc. Since removing turns from L2 will affect the highest frequency to which the v.f.o. will tune, after each adjustment to L2 check the highest frequency and adjust C5 so that this is 2 Mc. Repeat these adjustments in the order and manner given until the v.f.o. tunes 1.8-2 Mc.

Apply power to the driver stages, and the v.f.o. and check the grid current to the p.a. If the chokes specified have been fitted, then the 6.8K ohm resistor across RFC2 will produce a grid current of 2 mA. to the p.a. If other chokes have been substituted, the value for the resistor to be fitted at R9 will have to be found by trial and error.

No special components are required on the Top Band pi-network output circuit which functions in the normal manner.

CONCLUSION

As will be appreciated, this transmitter is of a very useful design in itself, but there would seem to be no reason why similar circuit configurations could not be successfully worked out for other powers and bands. The prime requirements are that the two frequencies involved should be fairly well divorced from each other.

NEW CALL SIGNS

SEPTEMBER 1961

- VK2SS—T. Ivins, 53 Clarence St., Bankstown.
VK3VO—J. Summersby, Russell St., Wollstonecraft.
VK3AA—C. Churn, 23 Third Ave., Epping.
VK2AHO—M. J. Kelly, 61 Ewing St., Murrumbidgee.
VK3AR—H. J. Robinson, 2/19 Cooper St., Paddington.
VK2AVS—I. K. Dunlop, 7 James St., Murrumbidgee.
VK2AWK—W. R. Penberthy, 3 Lyla St., Beverly Hills.
VK2AYS—T. W. A. Wilson, 3/265 Victoria St.
VK2AX—L. A. Maschette, 33 Phillip Rd., Raymond Terrace.
VK2ZM—R. C. Milton, 8 High St., Cairn-matta.
VK2ZFO—C. L. Scully, 94 Graffon St., Wool-lahra.
VK2ZSA—P. A. Smith, 44 Ralston Ave., Car-ingbah.
VK3AGM—C. H. Loft, 58 Hopwood St., Echuca.
VK3ARO—R. W. G. Chalmers, 6 Gelschoue St., Parkville.
VK3ZF—L. Patterson, 33 Inkerman St., Maldstone.
VK3ZWR—P. W. Thorp, 128 Glen Iris Rd., Glen Iris.
VK4BD—B. Doran, 25 Telegraph Rd., Bald Hills.
VK4YS—Geondwindi Scout Troop Radio Club, 53 McLean St., Geondwindi.
VK3EL—A. G. Landers, 76 Grant Ave., Rose Park.
VK5EW—A. B. Foster, 10 Haldane St., Eliza-beth Downs.
VK5QS—Radio Trade School, Meyer St., Torrensville.
VK5XN—R. D. Hall, Snow's Rd., Stirling West.
VK5ZR—A. W. Edwards, 4 Leonard St., Ed-wardsville.
VK6ZAJ—G. Dyke, 340 Jersey St., Wembley.
VK6ZFA—M. J. Garth, Babbage Island Rd., Carnarvon.

Publications Committee Reports That . . .

All inwards correspondence received after 2nd December, 1961, will be acknowledged in the February issue of "A.R.". The fact that the January issue had an earlier copy date was overlooked by many readers.

The February issue of "A.R." will be mailed about mid-February, hence you should not expect this particular issue at the beginning of the month. The various Notes will not appear in this issue due to the holiday period at our printers so readers should forward the next lot of notes by 5th February, 1962, for inclusion in the March issue of "A.R.". The "Call Book" should be issued in February after a delay beyond our control.

Arrangements have been made to commence this issue with a new cover design which will mean that future issues of "A.R." will not feature the "photo cover". The savings in cost so achieved will permit the regular introduction of the Propagation Charts in the February issue of "A.R."

Have fun, take care and enjoy your holiday break. Accidents just don't happen, they occur through some oversight on your part, so don't become an accident statistic. Remove yourself in time. Happy New Year to all from the Com. Pub. sorry, Pub. Com.

HINTS AND KINKS

PROTECTIVE COVER FOR SO239 CONNECTOR

Many wine bottles are now sealed with a polythene stopper. These are a neat fit over the SO239 and will protect the projecting portion from damage.—VK3ASC.

Phone 34-6539, write or call

WILLIAM WILLIS & Co. Pty. Ltd.
428 Elizabeth St., Melbourne
for **GELOSO**
Equipment and Components

A SELF POWERED C.W. MONITOR*

or Look Maw! No Batteries!

OTIS WRENCH, WOMOB

AS every c.w. operator that has ever worked me knows, I have a lousy fist, and it is even lousier if my code monitor is not working. I've always had one (code monitor, that is) albeit my tale of woe and frustration has its silver lining and happy ending.

I've always been a strong adherent to the principle of versatility. Not only does it save the cost of chassis pans, panels, cabinets and bumper feet, but there is a great deal of satisfaction in having a piece of equipment that will do umpteen dozen things. Not all at once, mind you, but it will do them, one at a time. It also keeps the XYL interested, because she has her eye on that chassis if I ever salvage it. She says she is going to use it for a cullender some day.

If my code monitor was anything, it was versatile. It was also a very satisfactory code monitor at certain times. But it had seven double pole double throw toggle switches on the front panel and one double pole double throw slide switch. It had depleted my supply of toggle switches. Also, I supplied a meter, a phone jack, a pitch control knob, a meter adjust knob, a dial for the code monitor input capacitor, a dial for the variable oscillator, a dial for the doubler, tripler stage, a five-position band switch and two crystal sockets, plus three tally lights. Oh yes, also two pots and two banana jacks on the back panel, but I've long since forgotten what they were for.

It was a joy to behold. It was a code monitor and an a.m. monitor. You only had to plug in a headset to monitor phone. It was field strength meter that worked fine. It transistorized that part of it several years ago when transistors first became available at bargain prices. It was also a 100 Kc. and 1,000 Kc. crystal calibrator, with and without tone modulation. (A double pole double throw switch selected that mode of operation.) It had two crystal sockets on the front panel for the most popular types (with me) of holders. That stage was a type of Pierce oscillator, untuned, and the meter could be switched from the field strength position to read a portion of the grid voltage, and hence give an indication of the activity of the crystal.

There was a variable oscillator in it, covering the low frequency range, which I thought I needed to align my BC453. However, I was never quite sure of the calibration of this low frequency oscillator, and never used it. (It's coming out on the next modification.) Also there was a tuned doubler, tripler, quadrupler (?) stage which could be fed by either the Test Xtal or Calibrate Xtal stage by throwing the

appropriate switches in the right direction, and which would give me marker points down to 6 metres, depending, of course, on which crystal I was using at the time. It could also be used as a single frequency audio oscillator and as a code practice oscillator.

Now, isn't that a humdinger? What more could you ask for on one little 8" x 10" panel? The only problem was that after it had set there for a while, I forgot which switch to throw which way to get the code monitor to work.

One evening while in the middle of my third QSO (and I still hadn't thrown the right switches to get the code monitor turned on) I had a happy thought. Why not build a separate code monitor? What evolved was placed in a 4" x 5" x .38" aluminum box.

I did and the circuit is shown in Fig. 1. Most of the parts were scrounged from a defunct transistorised radio. Capacitor C1 is the tuning capacitor with both sections paralleled. There are no numbers on the transistor; they were rubbed off long ago, but it is a p.n.p. type. I can't decipher the code on the diode either so any type you have will probably do.

One disappointment in the works. I bought a red banana plug and jack and ripped up a cute little 18" whip antenna that sticks up out of the top. My 55 watt rig wasn't quite powerful enough. It just wasn't loud enough. I tied about 10 feet of wire to the whip, and now it is just right. I measured the voltage at the top of the 2 μ F. capacitor and found that it was approximately 5 volts, using the 10 ft. piece of wire for an antenna.

It would startle me at first. I would close the key to test the transmitter, and it would immediately start squalling like a junior op. that had been stepped on, and I knew I hadn't turned it on. But then you will get used to it after coming back to turn it off a few times, and you will glory in it, and say, "Look, Maw! It don't run up no light bill and you don't have to buy no batteries! It's free!"

And, incidentally, if you build one of these and it doesn't work, don't write me. I didn't have to trouble-shoot mine either time. Fortunately it worked both times I put it together. When I haywired it together and when I put it in the box.

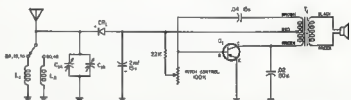


Fig. 1.—Circuit of a self powered c.w. monitor
are salvaged from an

Cl—See text.

Li—5 turns, 24 gauge enamel on 1/4 inch diam.
poly. rod.

If you use an n.p.n. type transistor simply reverse the diode polarity and it will work also.

I originally had intended to power it with batteries, and I haywired the oscillator section together first. Testing it with a depleted pen light cell I had taken out of my Tunnel Dipper, it gave out a weak chirp.

At that point I had another wild idea. Suppose I could power it from the air? I hastily wired up the front section, and clipping a test lead on the top of the capacitor for an antenna, I turned the transmitter on. It sat there and squalled like a harmonic with a wet diuner.

From that point on, it was a matter of taking it apart and putting it back together in the box, applying the decals, and setting it on the operating desk in front of me.

Most of the components, speaker included,
old transistor radio.

LI-40 turns 24 gauge enamel on other end
of LI rod.
TI-Lafayette TR-99.
OI-Any audio type p.n.p. See text.

If you want to visit, I'll show you mine, and prove that it does work. I'll even take the back cover off so you can see there aren't any batteries in it! Good luck. OM as 73.

✱

ERRATA

In the article "Some 6-Metre Antennae" (Dec. '65 "A.R.") the length of the 50 ohm matching stub should be 35½ inches not 52 inches, as in Fig. 1.

Also Fig. 2, mentioned in the text (third paragraph) does not refer to the diagram marked Fig. 2. It should be Fig. 1 as a Gamma-match obviously has nothing to do with a Q-match. The Q-match details should be clear from Fig. 2.

* Reprinted from "CQ," August 1963.



WARBURTON FRANKI

● MULTIMETERS—200H

Fan shaped meter movement.

Ranges: DCV—5, 25, 50, 250, 2,500 at 20K o.p.v.
ACV—10, 50, 100, 500, 1,000 at 10K o.p.v.
DC mA—50 μ A, 2.5 mA, 250 mA.
OHMS—600, 600K.
CAP—10 pF. to 0.1 μ F.
DB—Minus 20 to plus 22.

Supplied with leads and instruction leaflet.

95/- (\$9.50)

Plus S/T 12½%. Pack and Post 1/6.

● TRANSISTOR AMPLIFIER—SINCLAIR X-20 PULSE-WIDTH MODULATED AMPLIFIER AND PRE-AMP. OPEN MATRIX BOARD CONSTRUCTION

12 Transistors, size 8½ x 3½ x 1 in. Weight 4 ozs.

Input sensitivity—1 mV. into 5,000 ohms.
Total harmonic distortion—Less than 0.1% at 10w.
Frequency response at all power levels—20 c/s. to 20 Kc.
plus 1 db.

Damping Factor—greater than 100.
Quiescent consumption—approx. 150 mA.
Supply Voltage—28 to 37 volts (7.5 ohm speaker).
28 to 45 volts (15 ohm speaker).

Output Power—7.5 ohm Speaker, 20 watts r.m.s. music power.
15 ohm Speaker, 15 watts r.m.s. music power.
Supplied with comprehensive descriptive booklet showing
circuit and recommended circuitry for volume
and tone controls.

£13/5/0 (\$26.50)

Plus S/T 12½%. Pack and Post 1/-.

A.C. POWER SUPPLY TO SUIT—

(Will supply two Amplifiers for Stereo use)

£6/6/0 (\$12.60)

Plus S/T 12½%. Pack and Post 2/6.

● MULTIMETERS—SANWA 370-X

Ranges: DCV—3, 6, 12, 120, 300, 1,200, 3,000 at 4K o.p.v.

ACV—6, 12, 120, 300, 1,200, 3,000 at 4K o.p.v.

DC mA—0.3, 3, 30, 300.

DC Amps—3, 12.

AC Amps—3, 12.

OHMS—10K, 100K, 1 meg., 10 meg.

DB—Minus 10 to plus 17.

Minus 0 to plus 23.

Supplied with two pairs of test leads and comprehensive instruction booklet.

£13 (\$26)

Plus S/T 12½%. Pack and Post 2/6.

Wooden Carrying Case to suit. Well made with safety lock and removable lid.

£3/19/0 (\$7.90)

Plus S/T 12½%. Pack and Post 2/-.

● TELECOMPONENTS

Television spares. Available from stock. Write or call for list.

STOCKTAKING BARGAINS

● SILICON DIODES

18 amps. at 50 p.i.v. Available either K or A to Case.

7/6 each (75c)

Plus S/T 12½%. Pack and Post 6d. each.

ALSO 1 amp. at 1,000 p.i.v.

13/6 each (\$1.35)

Plus S/T 12½%. Pack and Post 6d. each.

● VARIABLE CONDENSERS

100 pF. maximum, 17 plates, ½" shaft.

6/- (60c)

Plus S/T 25%. Post Free.

● KNIFE SWITCHES

Double pole with spark gap. 4" x 1½".

5/7 (56c)

Plus S/T 25%. Pack and Post 8d.

● CABINETS OF DRAWERS

Fitted with Carrying Handle and Drawer Lock for portable use.

SIZE OVERALL—12" x 9" x 4½".

CONTAINS—16 Drawers, 5½" x 2½" x 1½".

45/4 (\$4.53)

Plus S/T 12½%.



WARBURTON FRANKI

220 PARK ST. SOUTH MELB., VIC.

PHONE 69-0151
30 lines



● TRADE ALSO
SUPPLIED

● Please include
postage and
freight with
all orders

AUSTRALIAN DX CENTURY CLUB AWARD

OBJECTS

- 1.1 This Award was created in order to stimulate interest in working DX in Australia and to give successful applicants some tangible recognition of their achievements.
- 1.2 This Award, to be known as the "DX Century Club" Award, will be issued to any Australian Amateur who satisfies the following conditions.
- 1.3 A certificate of the Award will be issued to the applicants who show proof of having contacted one hundred countries, and will be endorsed as necessary, for contacts made using only one type of emission.

REQUIREMENTS

- 2.1 Verifications are required from one hundred different countries as shown in the Official Countries List.
- 2.2 The Official Countries List will be published annually in "Amateur Radio" and will be amended from time to time as required. Should a country be deleted from the Countries List at any time, members and intending members will be credited with such country if the date of contact was before such deletion.
- 2.3 The commencing date for the Award is 1st January 1948. All contacts made on or after this date may be included.

OPERATION

- 3.1 Contacts must be made in the H.F. Band (Band 7) which extends from 3 to 30 Mc, but such contacts must only be made in the authorized Amateur Bands in Band 7.

- 3.2 All contacts must be two-way contacts on the same band. Cross band contacts will not be allowed.
- 3.3 Contacts may be made using any authorized type of emission for the band concerned.
- 3.4 Credit may only be claimed for contacts with stations using regularly-assigned Government call signs for the country concerned.
- 3.5 Contacts made with ship or aircraft stations will not be allowed, but land-mobile stations may be claimed provided their specific location at the time of contact is clearly shown on the verification.
- 3.6 All stations must be contacted from the same call area by the applicant, although if the call sign is subsequently changed, contacts will be allowed under the new call sign providing the applicant is still in the same call area.
- 3.7 All contacts must be made when operating in accordance with the Regulations laid down in the "Handbook for the Guidance of Operators of Amateur Wireless Stations" or its successor.

VERIFICATIONS

- 4.1 It will be necessary for the applicant to produce verifications in the form of QSL cards or other written evidence showing that two-way contacts have taken place.
- 4.2 Each verification submitted must be exactly as received from the station contacted, and altered or forged verifications will be grounds for disqualification of the applicant.

- 4.3 Each verification submitted must show the date and time of contact, type of emission and frequency band used, the report and the location or address of the station at the time of contact.
- 4.4 A check list must accompany every application setting out the details for each claimed station in accordance with the details required in Rule 4.3.

APPLICATIONS

- 5.1 Applications for membership shall be addressed to the Awards Officer, Box 2111W, G.P.O., Melbourne, Vic., accompanied by the verifications and the check list with sufficient postage enclosed for their return to the applicant, registration being included if desired.
- 5.2 A nominal charge of 2/6, which shall also be forwarded with the application, will be made for the issue of the certificate to successful applicants who are non-members of the Wireless Institute of Australia.
- 5.3 Successful applicants will be listed periodically in "Amateur Radio". Members of the D.X.C.C. wishing to have their verified country totals, over and above the one hundred necessary for membership, listed will notify these totals to the Awards Officer.
- 5.4 In all cases of dispute, the decision of the Awards Officer and two members of the Federal Executive of the W.I.A. on the interpretation and application of these Rules shall be final and binding.
- 5.5 Notwithstanding anything to the contrary in these Rules, the Federal Council of the W.I.A. reserves the right to amend them when necessary.

AUSTRALIAN V.H.F. CENTURY CLUB AWARD

OBJECTS

- 1.1 This Award has been created in order to stimulate interest in the V.H.F. bands in Australia, and to give successful applicants some tangible recognition of their achievements.
- 1.2 This Award, to be known as the "V.H.F. Century Club" Award, will be issued to any Australian Amateur who satisfies the following conditions.
- 1.3 Certificates of the Award will be issued to the applicants who show proof of having made one hundred contacts on the V.H.F. bands, and will be endorsed as necessary, for contacts made using only one type of emission.

REQUIREMENTS

- 2.1 Contacts must be made in the V.H.F. Band Band 8 which extends from 30 to 300 Mc, but such contacts must only be made in the authorized Amateur Bands in Band 8.
- 2.2 In the case of the authorized bands between 30 and 100 Mc verifications are required from one hundred different stations at least seventy of which must be Australian. The Amateur Bands 80 to 94 Mc and 98 to 100 Mc will be counted as one band for the purposes of the Award.
- 2.3 In the case of the authorized Amateur Band between 100 to 200 Mc. and any authorized band between 200 to 300 Mc, verifications from one hundred different stations for each band is required.
- 2.4 It is possible under these rules for one applicant to receive three certificates, one for each of the authorized Amateur Bands nominated in Rules 2.2 and 2.3.
- 2.5 The commencing date for the Award is 1st June, 1948. All contacts made on or after this date may be included.

OPERATION

- 3.1 All contacts must be two-way contacts on the same band, and cross band contacts will not be allowed.
- 3.2 Contacts may be made using any authorized type of emission for the band concerned.
- 3.3 Fixed stations may contact portable/mobile stations and vice versa, but portable/mobile station applicants must make their contacts from within the same call area.
- 3.4 Applicants, when operating either portable/mobile or fixed, may contact the same station licensee, but may not include both contacts for the same type of endorsement.
- 3.5 Applicants may only count one contact for a station worked as a limited licensee with a Z call sign who is subsequently contacted as a full A.C.C.P. holder.
- 3.6 All stations must be contacted from the same call area by the applicant, although if the applicant's call sign is subsequently changed, contacts will be allowed under the new call sign providing the applicant is still in the same call area.
- 3.7 All contacts must be made when operating in accordance with the Regulations laid down in the "Handbook for the Guidance of Operators of Amateur Wireless Stations" or its successor.

VERIFICATIONS

- 4.1 It will be necessary for the applicant to produce verifications in the form of QSL cards or other written evidence showing that two-way contacts have taken place.
- 4.2 Each verification submitted must be exactly as received from the station contacted, and altered or forged verifications will be grounds for disqualification of the applicant.
- 4.3 Each verification submitted must show the date and time of contact, type of emission and frequency band used, the report and the location or address of the station at the time of contact.

- 4.4 A check list must accompany every application setting out the following details:—
 - 4.4.1 Applicant's name and call sign, and whether a member of the W.I.A. or not.
 - 4.4.2 Band for which application is made, and whether special endorsement is involved.
 - 4.4.3 Where applicable, the date of change of call sign and previous call sign.
 - 4.4.4 Details of each contact as required by Rule 4.3.
 - 4.4.5 The applicant's location at the time of each contact if portable/mobile operation is involved.
 - 4.4.6 Any relevant details of any contact about which some doubt might exist.

APPLICATIONS

- 5.1 Applications for membership shall be addressed to the Awards Officer, Box 2111W, G.P.O., Melbourne, Vic., accompanied by the verifications and the check list with sufficient postage enclosed for their return to the applicant, registration being included if desired.
- 5.2 A nominal charge of 2/6, which shall also be forwarded with the application, will be made for the issue of the certificate to successful applicants who are non-members of the Wireless Institute of Australia.
- 5.3 Successful applicants will be listed periodically in "Amateur Radio". Members of the P.C.C. wishing to have their verified totals, over and above the one hundred necessary for membership, listed will notify these totals to the Awards Officer.
- 5.4 In all cases of dispute, the decision of the Awards Officer and two members of the Federal Executive of the W.I.A. on the interpretation and application of these Rules shall be final and binding.
- 5.5 Notwithstanding anything to the contrary in these Rules, the Federal Council of the W.I.A. reserves the right to amend them when necessary.

AUSTRALIAN D.X.C.C. COUNTRIES LIST

	Phone	C.W.		Phone	C.W.
AC3		Sikkim	FB8		Comoro Is.
AC4		Tibet	FI8 (pr' 20/7/55)		Fr. Indo China
AC5		Bhutan	FK8		New Caledonia
AP		East Pakistan	FL8		Fr. Somaliland
AP		West Pakistan	FM7		Martinique
BV (C3)		Formosa	FN (prior 1/11/54)		French India
BY (C)		China	F08		Clipperton I.
C0 (prior 1/1/84)		Manchuria	F08		Fr. Oceania
CE		Chile	FP8		St. Pierre & Mq. Is.
CE8, KC4, LU-Z, VK0, VP8, ZL5		etc., Antarctica	*FQ8		Fr. Equatorial Africa
CE0A		Easter I.	TL8 (fr. 13/8/60)		Sen. Afric. R.
CE0X		St. Felix I.	TN8 (from 15/8/60)		Congo Rep.
CE0Z		J. Fernandez Arch.	TR8 (from 17/8/60)		Gabon Rep.
CM, CO		Cuba	TT8 (from 11/8/60)		Chad Rep.
CN2 (prior 1/7/60)		Tangier	FR7 (from 25/6/60)		Glorioso I.
CN2, 8, 9		Morocco	FR7 (from 25/6/60)		Juan de Nova and Europa Is.
CP		Bolivia	FR7		Reunion I.
CR3		Portuguese Guinea	FR7		Tromelin I.
CR4		Cape Verde Is.	FS7		Saint Martin
CR5		Principe, Sao Thome	FU8, YJ1, 8		New Hebrides
CR6		Angola	FW8		Wallis & Futuna Is.
CR7		Mozambique	FY7		Fr. Guiana & Inini
CR8 (prior 1/1/62)		Goa	G		England
CR8, 10		Port. Timor	GC		Guernsey and Deps.
CR9		Macao	GC		Jersey I.
CT1		Portugal	GD		Isle of Man
CT2		Azores	GI		Northern Ireland
CT3		Madeira Is.	GM		Scotland
CX		Uruguay	GW		Wales
DJ, DL, DM		Germany	HA		Hungary
DU		Philippine Is.	HB		Switzerland
EA		Spain	HC		Ecuador
EA8		Balearic Is.	HC8E		Ebon Atoll
EA8		Canary Is.	HC8G		Galapagos Is.
EA9		Ibni	HB0 (HE)		Liechtenstein
EA9		Rio de Oro	HH		Haiti
EA9		Spanish Morocco	HI		Dominican Rep.
EA0		Spanish Guinea	HK, SJ		Colombia
EI		Rep. of Ireland	HK0		Arch. of San Andres and Providencia
EL		Liberia	HK0		Bajo Nuevo
EF, EQ		Iran	HK0		Malpelo Is.
ET2 (prior 14/11/62)		Eritrea	HL, HM, 6N5		Korea
ET2, 3, 9E		Ethiopia	HP		Panama
F		France	HR		Honduras
FB8		A'dam & St. Paul Is.	HS		Thailand
FB8		Crozet Is.	HV		Vatican
FB8		Kerguelen Is.	HZ (see 72)		
FC		Corsica	I1, IT1		Italy
*FF8		French West Africa	I1 (prior 1/4/57)		Trieste
TU2 (fr. 7/8/60)		Ivory Coast R.	I5 (prior 1/7/60)		It. Somaliland
TY2 (fr. 1/8/60)		Dahomey Rep.	IS1		Sardinia
TZ2 (from 20/6/60)		Mail Rep.	JA, KA		Japan
XT2 (from 5/8/60)		Voltaic Rep.	JT1		Mongolia
5U7 (from 3/8/60)		Niger Rep.	JY		Jordan
5T5 (from 20/6/60)		Mauritania	JZ0 (pr' 1/5/63)		W. New Guinea
6W8 (fr. 20/6/60)		Senegal Rep.	K, W		U.S.A.
FG7		Guadeloupe			

*Fr West Africa and Fr Equatorial Africa: Only contacts dated prior to when the particular area obtained separate listing (as shown) will count.

	Phone	C.W.		Phone	C.W.
KA0, KG8I Benin & Volcano Is.			ST2		Sudan
KB6 Baker, Howland and			SU		Egypt
Am. Phoenix I. (inc. Canton I.)			SV		Crete
KC4 Navassa I.			SV		Dodecanese
KC6 Eastern Caroline Is.			SV		Greece
KC6 Western Caroline Is.			TA		Turkey
KG4 Guantanamo Bay			TF		Iceland
KG6 Guam			TG		Guatemala
KG6 Marcus I.			TI		Costa Rica
KG6 (Rota, Tinian, Saipan, etc.)			TI9		Cocos I.
Mariana Is.			TI9C		Cormoran Reef
Hawaiian Is.			TJ (FE8)		Cameroon Rep.
KH6 Kure I.			TL, TN, TR, TT (see after FQ8)		
KJ8 Johnston I.			TS (3V8)		Tunisia
KL7 Alaska			TU, TY, TZ (see after FF8)		
KM6 Midway Is.			UA1-6, UN1		Eur. R.S.F.S.R.
KP4 Puerto Rico			UA1		Franz Josef Land
KP6 Palmyra Group, Jarvis I.			UA2		Kaliningrad Region
KR6 Ryukyu Is.			UA9, 0		Asiatic R.S.F.S.R.
KS4B Ser'na Bank & Roncad Cay			UB5		Ukraine
KS4 Swan Is.			UC2		White Russian S.S.R.
KS6 American Samoa			UD6		Azerbaijan
KV4 Virgin Is.			UF5		Georgia
KW6 Wake I.			UG6		Armenia
KX6 Marshall Is.			UH8		Turkoman
KZ3 Canal Zone			UH8		Uzbek
LA Bouvet I.			UJ8		Tadzhik
LA Jan Mayen			UL7		Kazakh
LA Norway			UM8		Kirghiz
LA Svalbard			UN1 (prior 1/7/60)		Kar-Fin Rep.
LU Argentina			UO5		Moldavia
LX Luxembourg			UP2		Lithuania
LZ Bulgaria			UQ2		Latvia
MP4 Bahrain			UR2		Estonia
MP4 Qatar			VE, VO		Canada
MP4 Trucial Oman			VK		Australia
OA Peru			VK2		Lord Howe Is.
OD5 Lebanon			VK4		Willis Is.
OE Austria			VK9		Christmas I.
OH Finland			VK9		Cocos Is.
OH0 Aland Is.			VK9		Nauru I.
OK Czechoslovakia			VK9		Norfolk I.
ON4 Belgium			VK9		Papua Terr.
OX, KG1 Greenland			VK9		Terr. of New Guinea
OY Faeroes			VK0		Heard I.
OZ Denmark			VK0		Macquarie I.
PA0, PI1 Netherlands			VO (prior 1/4/49)		Newf./Lab.
PJ Neth. West Indies			VP1		British Honduras
PJ2M Sint Maarten			†VP2 (prior 1/6/58)		Leeward Is.
PK1, 2, 3 (prior 1/5/63)			VP2		Anguilla
PK4 (prior 1/5/63)			VP2		Antigua, Barbuda
PK5 (prior 1/5/63)			VP2		Br. Virgin Is.
PK6 (prior 1/5/63)			VP2		Montserrat
Molucca Is.			VP2		St. Kitts, Nevis
Andorra			†VP2 (prior 1/6/58)		Windward Is.
Brazil			VP2		Dominica
PY0 Fernando de Noronha			VP2		Grenada & Deps.
PY0 St. Peter & Paul Rocks			VP2		St. Lucia
PY0 Trindade & Martin Vaz Is.			VP2		St. Vincent & Deps.
PZ1 Netherlands Guiana			VP3		British Guiana
SL, SM Sweden			VP4		Trinidad & Tobago
SP Poland					

† One contact with each group formerly known as "Leeward Is." and "Windward Is." dated prior to 1/6/58 may be credited, in which case no further credit as a separate listing, as from 1/6/58, will be given those particular islands.

	Phone	C.W.		Phone	C.W.
VP5		Cayman Is.	2K1		Cook Is.
VP6		Turks & Caicos Is.	2K1		Manihiki Is.
VP6		Barbados	2K2		Niue
VP7		Bahama Is.	ZL		Chatham Is.
VP8		Falkland Is.	ZL		New Zealand
VP8, LU-Z		South Georgia	ZL1		Kermadec Is.
VP8, LU-Z		South Orkney Is.	ZL4		Auckland and Campbell Is.
VP8, LU-Z		South Sandwich Is.	ZM7		Tokelau Is.
VP8, LU-Z, CE9		Sth. Shet. Is.	ZP		Paraguay
VP9		Bermuda Is.	ZS1, 2, 4, 5, 6		Rep. of S. Africa
VQ9 (prior 1/7/60)		Br. Somalil'd	ZS2		Prince Ed. and Marion I.
VQ9		Agelega & St. Brandon	ZS3		South-West Africa
VQ9		Chagos Is.	ZS7 (see ZD5)		
VQ9		Mauritius	ZS8		Basutoland
VQ9		Rodriguez I.	ZS9		Bechuanaland
VQ9		Aldabra Is.	IS		Sprally Is.
VQ9		Seychelles	3A		Monaco
VR1 (includ. Canton Is.)		British Phoenix Is.	3W8, XV5		Vietnam
VR1 Gilbert & Ellice Is., Ocean Is.			4S7 (VS7)		Ceylon
VR2		Fiji Is.	4U1		I.T.U. Geneva
VR3		Fanning & Christmas Is.	4W1		Yemen
VR4		Solomon Is.	4X4 (from 14/5/48)		Israel
VR6		Tonga Is.	5A		Libya
VR6		Pitcairn I.	5B4 (ZC4)		Cyprus
VS4 (prior 16/9/63)		Sarawak	5H1 (VQ1)		Zanzibar
VS5		Brunei	5H3 (VQ8)		Tanganyika
VS6		Hong Kong	5N2 (ZD2)		Nigeria
VS9		Aden & Socotra	5R8 (FB8 Madagascar)		Malagasy
VS9		Kamran Is.	5T5, 5U7 (see after FF8)		
VS9		Kuria Muria	5V		Togoless Rep.
VS9		Maldiva Is.	5W1 (ZM6)		Samoa
VS9		Sultanate of Oman	5X3 (VQ5)		Uganda
VU2		India	5Z4 (VQ4)		Kenya
VU...		Laccadive Is.	6N6 (see HL)		
VU		Andaman & Nicobar Is.	6O1, 6O2 (fm. 1/7/60)		Somalia R.
XE, XF		Mexico	6W8 (see after FF8)		
XF4		Revilla Gigedo	6Y (VP5)		Jamaica
XT2 (see after FF8)			7G1 (from 1/10/58)		Rp. of Guinea
XU		Cambodia	7Q7 (ZD6, Nyasaland)		Malawi
XW8		Laos	7X2 (FA)		Algeria
XZ9		Burma	7Z (HZ)		Saudi Arabia
YA		Afghanistan	8F (from 1/5/63)		Indonesia
YI		Iraq	8Z4		Saudi Arabia-Iraq N.Z.
YK		Syria	8Z5 (9K3)		Saudi Ar.-Kuwait N.Z.
YN, YN0		Nicaragua	9A (MI)		San Marino
YO		Roumania	9G1 (from 5/3/57)		Ghana
YS		Salvador	9H1 (ZB1)		Malta
YU		Yugoslavia	9J (VQ2, N. Rhod.)		Zambia
YV		Venezuela	9K2		Kuwait
YV0		Aves I.	9L1 (ZD1)		Sierra Leone
ZA		Albania	9M2 (prior 16/9/63)		Malaya
ZB1 (see 9H1)			9M2 (from 16/9/63)		W. Malaysia
ZB2		Gibraltar	9M4 (VS1)		Singapore
ZC5 (pr. 16/9/63)		Br. Nth Borneo	9M8, 9M8 (from 16/9/63)		East Malaysia
ZC6		Palestine	9N1		Nepal
ZD3		The Gambia	9Q5 (pr. OQ5-0)		R. of The Congo
ZD4 (pr. 5/3/57)		Gold Coast, Togo	9S4 (prior 1/4/57)		Saar
ZD5 (ZS7)		Swaziland	9U5 (from 1/7/60 to 30/6/62)		Ruanda-Urundi
ZD7		St. Helena	9U5 (from 1/7/62)		Burundi
ZD8		Ascension Is.	9X5 (from 1/7/62)		Rwanda Rep
ZD9		T. da Cunha and Gough Is.			
ZE		Southern Rhodesia			

† From 16/9/63 to 8/8/65 counts as West Malaysia

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

PANSEY'S NOTES

Editor "A.R." Dear Sir,
Each month I have noticed in "A.R." magazine that the VK3 Divisional notes are allotted quite a lot of news columns—this may be a good thing for the South-Australian Division, but to us, in the north, it is a waste of valuable information space. I feel that these notes could be reduced to a more reasonable length, and the remaining space be rightly used to bring to the majority of readers items of interest either technical or non-technical.

—Arthur Johnson, VKAPX

[Couldn't agree more—Ed.]

"GOING S.W.B."

Editor "A.R." Dear Sir,
I am prompted to write to you on the topic which is foremost in my many Amateurs' minds and which is causing much friendly correspondence these days—i.e., "Going S.W.B."

Much has been said over the air and much has been written, but from observation I feel that the situation here in Australia seems to have resolved in a division of the Amateurs into four distinct categories—
(1) The "commercial s.w.b.'ers" with their Swans, Galaxies, etc.—very nice too and good luck to them but, of course, their ranks are limited by the financial status of the individual.
(2) The "home-brew s.w.b.'ers"—this section comprises mainly our more technically advanced s.w.b.ers, who in many cases, have available through their employment the use of test equipment, etc., far removed from that which may be found in the average lowly station. Then also, in many cases, have access to a ready supply of components at negligible cost.

(3) The mid-timer who has got along well enough on a.m. for the past thirty years and is "damned if I'm going to mess around with that new-fangled Duck Talk at my time of life." This group, while not very progressive, can be well understood and sympathized with. I'm willing to bet that some of our present members, thirty years hence, will be voicing similar sentiments thirty years hence!
(4) A very large proportion of the Amateur fraternity who, in my opinion, will be the value of s.w.b.-operation and would genuinely like to go s.w.b.—but do not have available test equipment other than the old g.d.o. and multimeter do not have access to a "canned box" of components and are not endowed with any great surplus of Decibels. This group, I feel, includes the greater proportion of Australian Amateurs.

At this point you may be making any one of a number of comments depending on the category above into which you fall but you are probably saying "So what?"
So, then, I feel that our Amateur organization, in order to further the interests of Amateurs as a whole and appreciating the great job already done, could tap its resources to produce a magazine which would be relatively simplified, fully detailed and illustrated series of articles and circuits on, say, s.w.b. and s.w.b. transmitter follow followed possibly by a multiband transmitter and then a complete transceiver. These should be accompanied by a complete list of components giving details of individual items together with availability and names of suppliers.

It is quite well known that very many Amateurs have been awaiting such a project to allow them to "step into the gap" and go to A.V.A., and I do not see why our own V.A.A. members could not produce something of the kind. The style would be to duplicate the material item by item.
Voices may be raised in anguish at this point, but I feel that the situation is such that great assistance could be given to very many members if such a project were undertaken. I well realise that many of the usual Amateur type articles have appeared in the Mag. but very many of these assume that the reader has an equivalent knowledge and available facilities as the writer, whilst others are so poorly written that the reader has happened to have in his "junk box" what necessitates a long and arduous search through the sources of supply in Australia often to find that the article is unable to duplicate the particular item.
I would like to commend Steve VK3VK, and his associates, for their efforts to assist his fellow Amateurs along the way

to s.w.b. and appreciate his remarks regarding d.b. but I feel, with the majority, that if we are going to empty our piggybanks we might as well go all the way and eliminate that other sidekick as well!

So, gentlemen, can someone come up with the works, along the lines of the "Electronics" projects (see 3-band d.n.b. transmitter in November issue) giving a good old chap a considerable space in the Magazine (you could always cut Pansey down to a mere two or three pages) thereby giving him a good old chap a bit of a rest! and help us poor sheep to partake more fully of our hobby—of course we still have to find the money and build the thing!

—J. S. Beckingham, VK4J1

[Pub. Comm would welcome such an article.—Ed.]

COST OF OVERSEAS EQUIPMENT

Editor "A.R." Dear Sir,
The letters published in the November 1965 issue require further comment because Mr. Gunther of Hobart apparently does not know about preferential Commonwealth import duty rates for electrical goods as an import concession, and Mr. Cunningham of Melbourne evades the KW7000 transceiver issue and only proves that in the case of an Edgemoor CKO he can't be bothered with the problem. It makes with his discount on the U.K. net prices plus duties.

Coming to Mr. Whalley's (VK4KH) assumptions, there is no sales tax on Amateur equipment in the U.K. In Britain it is a "purchase" tax, but it is levied on the net price. Secondly, K.W. Electronics only recently is catching up in production with the order back-

log, until recently only sold direct to the public and for export, and allows hardly any or very little discount for overseas importers. They have no agents in the U.K. either. So Mr. Cunningham's view of the transceiver in question was very little below what everybody else had to pay for it. As a matter of fact a year ago the set was extremely hard to get. In that light the sales price as advertised in Australia left a substantial, but not excessive margin, except for the sales tax charge on the retail price which is not quite what the importer pays in most cases.

Many Amateurs have little idea of the actual overhead expenses of the importer. The interest lost on outstanding capital, handling and insurance charges, the 27½ resp. 45 per cent import duties on overseas net cost, plus sales tax on the total plus 20 per cent. theoretical profit margin calculation. They also overlook the main reason for heavy import charges when packed and cannot be imported with only a few pounds of postage by parcel post, so become unduly expensive when imported directly by ocean freight. The cream is certainly off the Amateur supply business in Australia with the prevailing competition and no doubt the importer's import duties and sales tax overheads, the VK Amateurs are getting a very fair deal.

Mr. Whalley (VK4KH) in private correspondence, suggested that freedom from duties for Amateur equipment imported in Australia is long overdue. Nobody will disagree with that, but it is not the remit of the Dept. of Customs and Excise even fairly refused to consider by-law applications for Amateur equipment to be exempt from duty in near equivalents by the local industry.

—A. Bliss



Sub-Editor: D. GRANTLEY, W1A-1202
Alexander Ave., Hazelbrook, N.S.W.

1965 has drawn to a close, and as we look back for some it has been a year of achievement. In closing these few introductory remarks, I must mention two of our chaps. Firstly, to Peter Drew, you have done a fine job Peter, and personally congratulate you on your approach the head of the DX ladder, and may 1966 see you up at the 500 mark also. Secondly, to Colin MacLeod, who has been in the event though it occurred last month, was the issue of S.W.I. D.X.C. No. 1 to our number one listener, Eric L3045, a fitting reward for years of faithful service.

To those of our number who have graduated to the ranks of licensed Amateurs in 1965 we extend our best wishes and wish you good hunting in your new field of activity.

In closing these few introductory remarks, both Charles and I would like to thank all our friends who have been so loyal to us, and Charles says a very special "thank you" to all who write when his wife is in hospital. I am sure also, judging by comments I have received in the mail, that all our chaps are grateful for the conflict and stress in hospital. We are receiving from the Publications Committee and look forward to our continued good relations in 1966.

MEET THE LISTENERS

A name which has appeared regularly in "A.R." for many years is L3023, Don Shepherd, of Casino. Of late Don has restricted his operating to our three main contests using a 7v super with a 123 ft. and fed Zepp 24 ft. high, running E/W and connected to the 1st through 3rd bands. Don has an active and impressive list of contest certificates include a 1st and 2nd in the ZL Memorial, three N.F. days, four VYAs and VYAs. Don has a silver cup given by the VK3 S.W.I. Group for the R.D. The only award he has in the Elizabethan era, but do not be misled by this as Don is one of our best contest operators. Good luck OM.

VICTORIA

Election of office-bearers took place at the October meeting and the following were installed. President, Harry Roach, Vice-President, Brian Galt, Hon. Sec. and Hon. Treasurer, Ian Woodman; Treasurer, Tony Armstrong; Publicity, Ross Lazarus, and QSL Office, Colin McDermott.

During November most members have been busy with examinations or re-recting their

antennae which were blown down in recent storms. During the past year the Group had nine meetings and the average attendance at the monthly meetings being 30. A sub-committee of seven members are producing a s.w.l. newsletter, the first of which is available to all Institute members at the time of this issue. The first meeting for 1966 will be held on 28th January.

BAND CONDITIONS

Examinations have severely hampered interstate reports this month and most letters come from VK3. In the early morning, Mr. Hilliard has been on 14 Mc and comments that of late signals seem to be coming in from all directions at once. He has also heard signs of a possible DX presence. It is restricted to 38.7 Mc. Chas L3001 has also been inactive but was pleased to receive a card from L.A.S. and understand Mac has been confirmed for V.A. At this QTH (L3023) activity has been at a minimum but good openings have been noted on 7 Mc in the early morning. A newcomer to our page L3019, Middleton-Williams of Chester Hill submits a K3e list including EL, KLA, HPI, KGS (Marcus), KJ5, KRB, ODS and many others.

In VK3 Eric Trebblock's listings reflect the band conditions in that State, however I will list the contests heard during Nov on 80 mhz. 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 164th, 165th, 166th, 167th, 168th, 169th, 170th, 171st, 172nd, 173rd, 174th, 175th, 176th, 177th, 178th, 179th, 180th, 181st, 182nd, 183rd, 184th, 185th, 186th, 187th, 188th, 189th, 190th, 191st, 192nd, 193rd, 194th, 195th, 196th, 197th, 198th, 199th, 200th, 201st, 202nd, 203rd, 204th, 205th, 206th, 207th, 208th, 209th, 210th, 211st, 212th, 213th, 214th, 215th, 216th, 217th, 218th, 219th, 220th, 221st, 222nd, 223rd, 224th, 225th, 226th, 227th, 228th, 229th, 230th, 231st, 232nd, 233rd, 234th, 235th, 236th, 237th, 238th, 239th, 240th, 241st, 242nd, 243rd, 244th, 245th, 246th, 247th, 248th, 249th, 250th, 251st, 252nd, 253rd, 254th, 255th, 256th, 257th, 258th, 259th, 260th, 261st, 262nd, 263rd, 264th, 265th, 266th, 267th, 268th, 269th, 270th, 271st, 272nd, 273rd, 274th, 275th, 276th, 277th, 278th, 279th, 280th, 281st, 282nd, 283rd, 284th, 285th, 286th, 287th, 288th, 289th, 290th, 291st, 292nd, 293rd, 294th, 295th, 296th, 297th, 298th, 299th, 300th, 301st, 302nd, 303rd, 304th, 305th, 306th, 307th, 308th, 309th, 310th, 311st, 312nd, 313th, 314th, 315th, 316th, 317th, 318th, 319th, 320th, 321st, 322nd, 323rd, 324th, 325th, 326th, 327th, 328th, 329th, 330th, 331st, 332nd, 333rd, 334th, 335th, 336th, 337th, 338th, 339th, 340th, 341st, 342nd, 343rd, 344th, 345th, 346th, 347th, 348th, 349th, 350th, 351st, 352nd, 353rd, 354th, 355th, 356th, 357th, 358th, 359th, 360th, 361st, 362nd, 363rd, 364th, 365th, 366th, 367th, 368th, 369th, 370th, 371st, 372nd, 373rd, 374th, 375th, 376th, 377th, 378th, 379th, 380th, 381st, 382nd, 383rd, 384th, 385th, 386th, 387th, 388th, 389th, 390th, 391st, 392nd, 393rd, 394th, 395th, 396th, 397th, 398th, 399th, 400th, 401st, 402nd, 403rd, 404th, 405th, 406th, 407th, 408th, 409th, 410th, 411st, 412nd, 413th, 414th, 415th, 416th, 417th, 418th, 419th, 420th, 421st, 422nd, 423rd, 424th, 425th, 426th, 427th, 428th, 429th, 430th, 431st, 432nd, 433rd, 434th, 435th, 436th, 437th, 438th, 439th, 440th, 441st, 442nd, 443rd, 444th, 445th, 446th, 447th, 448th, 449th, 450th, 451st, 452nd, 453rd, 454th, 455th, 456th, 457th, 458th, 459th, 460th, 461st, 462nd, 463rd, 464th, 465th, 466th, 467th, 468th, 469th, 470th, 471st, 472nd, 473rd, 474th, 475th, 476th, 477th, 478th, 479th, 480th, 481st, 482nd, 483rd, 484th, 485th, 486th, 487th, 488th, 489th, 490th, 491st, 492nd, 493rd, 494th, 495th, 496th, 497th, 498th, 499th, 500th, 501st, 502nd, 503rd, 504th, 505th, 506th, 507th, 508th, 509th, 510th, 511st, 512nd, 513th, 514th, 515th, 516th, 517th, 518th, 519th, 520th, 521st, 522nd, 523rd, 524th, 525th, 526th, 527th, 528th, 529th, 530th, 531st, 532nd, 533rd, 534th, 535th, 536th, 537th, 538th, 539th, 540th, 541st, 542nd, 543rd, 544th, 545th, 546th, 547th, 548th, 549th, 550th, 551st, 552nd, 553rd, 554th, 555th, 556th, 557th, 558th, 559th, 560th, 561st, 562nd, 563rd, 564th, 565th, 566th, 567th, 568th, 569th, 570th, 571st, 572nd, 573rd, 574th, 575th, 576th, 577th, 578th, 579th, 580th, 581st, 582nd, 583rd, 584th, 585th, 586th, 587th, 588th, 589th, 590th, 591st, 592nd, 593rd, 594th, 595th, 596th, 597th, 598th, 599th, 600th, 601st, 602nd, 603rd, 604th, 605th, 606th, 607th, 608th, 609th, 610th, 611st, 612nd, 613th, 614th, 615th, 616th, 617th, 618th, 619th, 620th, 621st, 622nd, 623rd, 624th, 625th, 626th, 627th, 628th, 629th, 630th, 631st, 632nd, 633rd, 634th, 635th, 636th, 637th, 638th, 639th, 640th, 641st, 642nd, 643rd, 644th, 645th, 646th, 647th, 648th, 649th, 650th, 651st, 652nd, 653rd, 654th, 655th, 656th, 657th, 658th, 659th, 660th, 661st, 662nd, 663rd, 664th, 665th, 666th, 667th, 668th, 669th, 670th, 671st, 672nd, 673rd, 674th, 675th, 676th, 677th, 678th, 679th, 680th, 681st, 682nd, 683rd, 684th, 685th, 686th, 687th, 688th, 689th, 690th, 691st, 692nd, 693rd, 694th, 695th, 696th, 697th, 698th, 699th, 700th, 701st, 702nd, 703rd, 704th, 705th, 706th, 707th, 708th, 709th, 710th, 711st, 712nd, 713th, 714th, 715th, 716th, 717th, 718th, 719th, 720th, 721st, 722nd, 723rd, 724th, 725th, 726th, 727th, 728th, 729th, 730th, 731st, 732nd, 733rd, 734th, 735th, 736th, 737th, 738th, 739th, 740th, 741st, 742nd, 743rd, 744th, 745th, 746th, 747th, 748th, 749th, 750th, 751st, 752nd, 753rd, 754th, 755th, 756th, 757th, 758th, 759th, 760th, 761st, 762nd, 763rd, 764th, 765th, 766th, 767th, 768th, 769th, 770th, 771st, 772nd, 773rd, 774th, 775th, 776th, 777th, 778th, 779th, 780th, 781st, 782nd, 783rd, 784th, 785th, 786th, 787th, 788th, 789th, 790th, 791st, 792nd, 793rd, 794th, 795th, 796th, 797th, 798th, 799th, 800th, 801st, 802nd, 803rd, 804th, 805th, 806th, 807th, 808th, 809th, 810th, 811st, 812nd, 813th, 814th, 815th, 816th, 817th, 818th, 819th, 820th, 821st, 822nd, 823rd, 824th, 825th, 826th, 827th, 828th, 829th, 830th, 831st, 832nd, 833rd, 834th, 835th, 836th, 837th, 838th, 839th, 840th, 841st, 842nd, 843rd, 844th, 845th, 846th, 847th, 848th, 849th, 850th, 851st, 852nd, 853rd, 854th, 855th, 856th, 857th, 858th, 859th, 860th, 861st, 862nd, 863rd, 864th, 865th, 866th, 867th, 868th, 869th, 870th, 871st, 872nd, 873rd, 874th, 875th, 876th, 877th, 878th, 879th, 880th, 881st, 882nd, 883rd, 884th, 885th, 886th, 887th, 888th, 889th, 890th, 891st, 892nd, 893rd, 894th, 895th, 896th, 897th, 898th, 899th, 900th, 901st, 902nd, 903rd, 904th, 905th, 906th, 907th, 908th, 909th, 910th, 911st, 912nd, 913th, 914th, 915th, 916th, 917th, 918th, 919th, 920th, 921st, 922nd, 923rd, 924th, 925th, 926th, 927th, 928th, 929th, 930th, 931st, 932nd, 933rd, 934th, 935th, 936th, 937th, 938th, 939th, 940th, 941st, 942nd, 943rd, 944th, 945th, 946th, 947th, 948th, 949th, 950th, 951st, 952nd, 953rd, 954th, 955th, 956th, 957th, 958th, 959th, 960th, 961st, 962nd, 963rd, 964th, 965th, 966th, 967th, 968th, 969th, 970th, 971st, 972nd, 973rd, 974th, 975th, 976th, 977th, 978th, 979th, 980th, 981st, 982nd, 983rd, 984th, 985th, 986th, 987th, 988th, 989th, 990th, 991st, 992nd, 993rd, 994th, 995th, 996th, 997th, 998th, 999th, 1000th.

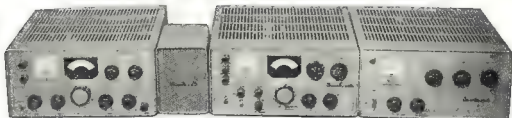
Only other reports this month come from L3023, L3029 and L3030. W.A. and again reports that 15 mc is pulling in the DX in the West. JA, ZEL, ZL, G. KRB were logged on that band, whilst YS, CK, ZSS, VE, ZL, and VK3 were in the secretariat. Reports were heard on 80. It was a great pleasure to exchange tapes with these lads early this month and make personal contact.

My remarks on this subject in a previous issue brought a prompt reply from Robt. Packer VK3YJ, who is the secretary of the Victorian Branch of the N.Z.D.X.R.A. (Submitted by Robt. Packer VK3YJ)

(Continued on Page 17)

F-SERIES S.S.B. EQUIPMENT by Yaesu Musen

PROFESSIONAL QUALITY AT AMATEUR PRICES



COMPACT TABLE-TOP STATION—MECHANICAL FILTER SYSTEM FIVE BANDS—80-10 METRES TRANSCIVE OR NORMAL OPERATION

- FR-100B:** S.s.b.-a.m.-c.w. dual conversion receiver with two mechanical filters for best reception of s.s.b. and a.m. Xtal filter for c.w.; a.n.l., a.g.c., S meter, s.s.b. clarifier, monitor, etc.
- FL-200B:** S.s.b.-a.m.-c.w. transmitter, 240w. p.e.p. input, with two 6JS6 tubes in p.a. running within ratings for longer life! Solidly constructed and neatly wired, with high quality components, ceramic bandswitch, Kokusai M.F., Solid State Power Supply, etc.

New, fully descriptive illustrated brochure from the Australian Agents:—

BAIL ELECTRONIC SERVICES

60 SHANNON STREET, BOX HILL NORTH, VIC.

Phone 89-2213

FOSTER DYNAMIC MICROPHONES

SPECIFICATIONS:

Output Impedance 50 ohms or 50K ohms
Effective output level -55 db. [0 db. — (one) 1V. Microbar]
Frequency response 50 to 15,000 c.p.s.

OMNI-DIRECTIONAL DYNAMIC:

Plastic Diaphragm. Swivel fits 5/8" 26 t.p.i. Stands.
Size: 4½" long, 1½" diameter. Colour: TWO-TONE GREY.
Cable: 12 ft. of P.V.C.

Retail Price 50K ohms: £4/16/0 + Sales Tax 10/0

Retail Price 50 ohms: £4/14/0 + Sales Tax 9/10

A QUALITY PRODUCT FOR TAPE RECORDERS & P.A. USERS



DF-3



Marketed by **ZEPHYR PRODUCTS PTY. LTD.**

58 HIGH STREET, GLEN IRIS, S.E.6, VICTORIA

Phones: 25-1300, 25-4556

Manufacturers of Radio and Electrical Equipment and Components

Agents: D. K. Northover & Co.; Neil Muller Ltd.; Homecrafts (Tas.) P/L; Jacoby, Mitchell & Co. P/L; T. H. Martin P/L.

FREE INFORMATION

Sub-Editor: PHIL. WILLIAMS, VK8NX

S.B. TRANSCEIVERS

There have been numerous requests for information on the various types of transceivers now available to the Australian Amateur, so I am taking the liberty of making this the theme for the summer holiday editions of these notes.

In general it may be said that the transceiver is a single package combined transmitter/receiver using as much apparatus as possible common to both functions. This usually boils down to a common i.f. strip including the crystal or mechanical filter, and common oscillator circuits, both crystal and variable, which are switched to the appropriate parts of the circuits.

My first introduction to transceiving was a unit using the oscillators from the RT22A transmitter, feeding via cathode followers to a mixer unit, thence to a converted "Super-Pro" tuned to 9 Mc. This "hash-up" was used by a U.S. serviceman overseas for phone-patch work during the mid-60s, the object then, being to send the transmission back to the States on the same frequency as was coming back. In this way, transmitter tuning was all that was needed.

About this time, Collins brought out the three-band KW1M for 10, 18 and 30 mc and since those bands were very co-operative for DX at that point in time these units were popular. Since the late 50s, however, the five-band KW3S and 753/23S transceive combination have taken the limelight. Anybody with a dowsed KW1M for sale is advised to wait for several more years, when its value is expected to rise with support.

Another transceiver that appeared at this time was the "Cosmophone", which was definitely a stand alone transceiver, because its size, shape and weight were about the same as a Marconi CR100 receiver. It possessed in a 90w, and a full kilowatt, but it was not a transceiver, it was a receiver, and it was powered by its two v.f.o.s. one for transmit and the other for receive, with provision to change at will. Many of the more recent units have "outboard" v.f.o.s. which enable this to be done. It is important to note that this Cosmophone was the forerunner of many of the advanced units available today, but has now become a discontinued line—mainly because of its appearance. When operating cross-band, via U.S. phone band to foreign phone band, one had to be on guard against inadvertently transmitting on the wrong v.f.o. The reaction to this was akin to driving wrong way down a "one-way" street. Apart from mentioning that this Cosmophone had a mechanical filter for sideband generation and reception and was a.c. powered, we will say no more than that both it and the KW1M were expensive.

The next transceiver excursion by a big manufacturer was the Hallicrafters FPM-3000, a beautiful little unit, with lots of transistors and a pair of 616s in the final, but it just could not be produced and sold under 2,000 dollars so that apart from being used for a few DX-peditions not much has been heard of it. I had the pleasure of operating one of these at WAAVA's establishment in New York City, and can vouch for its performance. It was offered at a bargain price—still more than a new KW2C, so it remained unsold.

Collins KW4W brought out in 1959, has been in production for six years now and is still basically the same apart from accessories which appear from time to time. When one considers the value, this unit is a real economical one, but alas, and particularly in Australia, financing a Rolls and a KW4W fall into the same category—just neither illustrates that "only the rich can afford to be economical."

After this, it seems that everybody wanted to get into the act and almost as many firms now make transceivers as make washing machines, about as competitive and full of "must" features.

Swan transceivers were next on the scene and the now famous SW150, using a 3 Mc filter and a single 6DQ5 output. Some clever people discovered that these could be made into a three-band job with a few coils, switches and the pleasure to drive into a new set of coils, cutters and soldering iron. Swan then brought out the 240 version, tri-banded, and Hallicrafters came along with a similar tri-

bander—the SR-150—in 1962, to follow a year later with the SR-160 for five-band work. R. L. Drake, of Ohio, then brought out his first transceiver in the same year (1963). His TR-9, a five-band unit (the previously made receivers used 9 Mc. filters—yes, two of them, one for upper and another for lower sideband—and has been a successful unit for both home and mobile use.

At about this time Radio Labs brought out a tri-band Galaxy transceiver, which although quite a large unit, established them in the market. The newer and smaller Galaxy III was produced in 1964, followed closely in the same year by the Galaxy V, both of which are still in production and widely used. The National Co. brought out their NCX-3 in 1963, their first attempt to re-enter the serious, high-class equipment field since the post-war years. The more recent NCX-4 is a five-band version covering 80-10 mhz. Both units have been popular, to say the least.

The Heath Co. makers of well known kits, has been successful with single band transceiver kits using crystal filters and printed circuits. Some time ago publicity was given to a larger five-band transceiver, but this has not materialised, although the separate transmitter/receiver units of the same construction are available and can be connected for transceiving. The smaller kits, the HW-12, HW-22 and HW-32, are to be tri-banded by addition of more coils and components for an additional 50 dollars, and this has been stated to be the cheapest way of getting on the 30, 40 and 80 mc bands. The kits for conversion are by Dynalab, not Heath-kit, just by the way.

Swan has recently kept to the fore with the five-band SWan-350 which is an in-built transmitter v.f.o. and the Swan-400 with alternative external v.f.o.s. The small mobile v.f.o. covers popular a.s.b. band sections, and the large v.f.o. gives complete band coverage. "Side-band Engineers" in California have marketed a transistors four-band unit, the SB-34 for several years and a later version, the SB-34 is basically the same but with additional features, such as slower tuning

rate. The transmitter output is, of course, obtained from valves, two 1.v. time-base types, and two heater additions to the panel are "Zener" diodes for the 100 and 1000 kc. sections. Selling their model 753 in either kit or wired form—and there are Australian agents, so I see in A.S.B. and "Transcom" with their SBT-3. The latter is, again, a transistorised unit and although I do not have details of the circuits, it appears to be comparable with the SB-34 except that external power supplies are required for the SBT-3.

(Continued next month)

★ SWL

(Continued from Page 15)

any reader be at all interested in commercial DX, Robt. would like to hear from you at 404 Mont Albert Rd., Surrey Hills, E.10, Vic.

Re the programme "DX Party Line" from HCB, advice is to hand from Bill Dalrymple, 30 Goulburn St., Sydney, their VK rep., to the effect that this programme is heard on first and third Wednesdays of the month at 7.30 p.m. our time on 8.05 or 8.748 Mc.

DX NEWS

Very little this month, FK1UX says all QSLs via K.E.F. Don't send a "bare" report to ZB8AO or it will finish up in the w.p.b. SUTAU based recently, says he will be on to W8KMI, the op. of SUTAU (SOIAU) has now returned to the States. Tax "Monitor".

DX LADDER

There are several alterations since our last publication, including the deletion of names which have been missing for three months.

	Country	Zones	W	Conf.	Dir.	Conf.	Stats
E. Trebilcock	-	-	280	228	40	50	
P. Drew	-	-	177	890	87	46	
W. Smith	-	-	189	590	58	58	
W. Smith	-	-	106	190	38	7	
A. Wentcott	-	-	106	190	34	11	
C. Harney	-	-	100	190	34	8	
O. East	-	-	86	165	38	18	
M. Hillard	-	-	83	241	33	14	
C. Abernethy	-	-	80	105	28	14	
W. Harrison	-	-	63	165	38	14	
B. Rosser	-	-	40	180	17	8	
A. Karter	-	-	40	175	34	11	
D. Shephard	-	-	38	165	38	14	
R. Halligan	-	-	31	136	11	1	

To qualify for a position on the ladder it is necessary to have ten confirmations.

Well chaps, that's it from here, 78 to you all and good listening in 1966-1967.



Manufacturers of Quartz Crystals for Frequency Control and Crystal Filters for Highly Selective Circuits announce:-

NEW LOWER PRICES FOR CLOSE TOLERANCE GOLD PLATED CRYSTALS FOR GOLD PLATED CRYSTALS FOR GOLD PLATED CRYSTALS

Amateur Net (each includ. Tax)

- 1.8 Mc. to 14.999 Mc. $\pm 0.005\%$ in Style "D" holders, $\frac{1}{2}$ " pin spacing ... $\pounds 2 \text{ 8 } 0$
- 15 Mc. to 47.999 Mc. $\pm 0.005\%$ in Style "D" holders, $\frac{1}{2}$ " pin spacing ... $\pounds 2 \text{ 10 } 0$
- 48.0 Mc. to 61.0 Mc. $\pm 0.005\%$ in Style "D" holders, $\frac{1}{2}$ " pin spacing ... $\pounds 2 \text{ 16 } 3$
- 100 Mc. $\pm 0.005\%$ in HC13/U holders, $\frac{1}{2}$ " pin spacing ... $\pounds 4 \text{ 10 } 0$
- 1 Mc. $\pm 0.005\%$ in Style "D" holders, $\frac{1}{2}$ " pin spacing ... $\pounds 4 \text{ 10 } 0$
- 455 Kc. nominal Crystals for Filter applications in Style "D" or "E" (BTG) holders ... $\pounds 4 \text{ 10 } 0$

Many other types and tolerances are available from our standard production. Please consult us on your Crystal requirements.

PYE PTY. LTD. CRYSTAL DIVISION

1A KILPA ROAD, MOORABBIN, VIC. Phones 95-2011, 95-6741

STATE OFFICES IN ADELAIDE, BRISBANE, HOBART, PERTH AND SYDNEY



Sub-Editor: ALAN SHAWSMITH, VKASB
35 Whynott St., West End, Brisbane, Qld.

Conditions continue to improve slowly, 21 Mc. particularly has been quite good and open from early morning until after dark. However, VK activity seems almost non-existent on this band up to now. So wind another wild chapel! Make the effort, it is worth it!

NOTES AND NEWS

Angela, Harvey VQRHFA managed a three-day stint early in Nov. Next burst from the island will be mid-December. QSL GRKES, 9MARS/2100. Active from Sabah, 1405, 1300s.

Easter is Reported on 30 c.w. 0300s. Look around 1405. Call is CEAC.

Bahony Rep. TYIATB opens up on 21400 s.a.b. about 1305z but will QRT under a pile up.

Manila, Raul VQAAT on 14700 at 1900s. Spanish Moros. EASAZ, 2130z with daily sked at 1600z with KPACAT.

Turkmen UH8DD is a YL, 14100 at 1800s. Mauritania, Alain ETBAD, 2110, 1800s.

Messieurs Jean SAIBP, 14354, 1400z. QTR OK in book.

Congo Rep. TNSAT, 2100s, 1800z.

Ceylon, ASTWV, 14200, 1200z. Also several on AI mode 20 Mc both at 0100 and 1200z approx.

Swissland: Arche, ZD3R and Dez ZDSM both GRV. QSL to VF40X or the former. Modes s.a.b. 14100 and c.w. also 21 Mc.

Rep. of Guinea: Josef VO1A, 21500, 1800z.

Malawi: TQ7PBD and TQ7PS both GRV on 14 Mc., AI mode. Try 1800z. Also TQ7BN said to be operating 21 Mc. s.a.b. 1730z. QSL the latter via WACVY.

Italy and Rio de Oro: Mike EA3QT still says he is going to operate from these places during Dec. and Jan. No other info.

Bonnie Giphy FJ9BD is rumored still active on 14 Mc. s.a.b. also 21 Mc.

Anguilla: VF2AX 14290 1900z, also VP2AC 14380 1100z.

Grand Turk Is.: VF5AR reported as still active and is expected to continue in some time, 14 s.a.b. and probably AI mode. Try 0400z or 2030z i.p.

ZD8ME is listed as active on all bands and mode. Not heard yet at this QTH.

Togo: SV2SCM 14 s.a.b. and c.w. Will operate for one year. QSL to F. Payet, P.O. Box 123, Lome, Togo.

Jan Mayen: LA3AJ/F 14040 1800z, also s.a.b. at times.

FBWVV: Now on s.a.b. So reports from Eu say, 14 Mc. around 0700z might find him.

CR5P: 21390, 2107z. Says he prefers to be called in Spanish. Erudite VKs please note.

OCMT: on now at time of writing, but not known for how long. 14385, 1400/1500z.

Portuguese Timor: CRAAE and CRIAF both GRV, the former s.a.b. and the latter AI mode. Both 14 Mc. and CRAAE's QSL goes to DUBH.

Tahiti: FOBAQ 14 s.a.b. 0645z. C/o. Panamaus, Tahiti. Also FO5BI active on all bands, c.w.

Pago Pago: K55SR 14 s.a.b. 0500z. QSL to R. K. Also one or two others operating.

Fleetsim: Tom VR7CT regularly on 2100s 2200z. Sked first with WO0LO to arrange Tom to call. Always a mess of Ws on the freq.

Br. Guiana: soon to be independent and renamed Guyana. Not known if prefix will be changed.

Singapore: Since break with Malaysia, is regarded as new country.

Govt. of Turks and Caicos transferred now to Govt. of Bahamas. This may mean another possible deletion in D.K.C.C.

ACTIVITIES

Chas VK6CU has found time between study and school teaching to snare a few good ones. AI 20 c.w.: TQ7PS 1200, FT2YL 1300, FL2RA 1400, QSL W2JFK, CR2AF 1400, VO1A 1400, and AW 1400, T23AB (Box 2488, Dharhan), EP2RV 1100, QSL G5RV1, DUBH (Box 4662, Manila), PCEVVO 1400, FT2YL 1400, IS5WV, W5WVW/TIC, W5WVW/ZMT, etc.

Dud VK4MY soaking up retirement on the Gold Coast and working DX. 5247D 200s, H8KPC 1310, OA4R 0315, 2505U 0850, OK4L 1125, T21ATU 1108, CR2CF 1400, V58OC 1120,

PS5VY 1150, W5WVW/ZMT, V58OC6 (Oman, 1100z), E58VY 1005z, E58VY 0700, CX1RY 1600, VQ1AI 1345 and others.

Ken VK3LTZ loses the following choice ones on 14 Mc: DU5FC, HV1CN, LASC/P (Jan Mayen), OD5GQ, OY7R, OH5V, PE5EVO, PJ3-ICB, V58MP, F2ARCA, E714Z, E58VW and more. Best QSLs recd. VF1AB, HC5FN, FJ2C, HP1BR, DU5FC, Y51AG, VF5AR (Grand Turk Is.) and H81SL.

All times given are G.M.T.

QSL MANAGERS

VF4CU-21ZLR
VF5AC-21LDD
VF5ALD/1W1-WJUF
XZ2TZ-W4XCI
Y1A1W-K5YVP
YAPB/YA-CBHG
Y510-WB0ZC
ZDSM-WACIN
ZDSR-VX0X
3VBCA-W5UTQ
X58N-W55Y

80MGE-W5WST
VK1MO-VK8RU
VK1OR-VK8RU
VF1WE-W5WV
VF1WE-VF5AA
VF1WE-W5WV
VF1JL-W5WV
VF1PS-W5WV
ZDSR-W5WV
VQ1HD-G5PEK
VQ1RF-W5WV

SUMMARY

DX-what the winds of change are blowing across Amateur Radio too. We are now in the era of island activity. A glance at the notes and news will show this. Expeditions are being planned to islands large and small. To mid ocean fragmentary rocks and at sea sand banks. DXing now has an exotic face. A new look if you like. The islands were Danny Well VP2VB and Sir Gus W6PDD, who is still humping gear from one outlandish place to another. Many others are helping to bring the islands of the world to our notice. Our own Bill Hempel, VK1AHO, left his share in Oceania. Fewerish contemporaries are Don W5WVW and Chuck K7LMU, both flat out operating from various islands, remote and near. Their proposed activity from Heard Is. in the near future will be a stout effort if it can be accomplished. Making a landing will be no piece of cake on the wind-torn spot down below the roaring furies.

All this may not be the ultimate for which Amateur Radio exists, but it is providing interest and activity.

A very special thanks to those who have helped provide the "meat" for the column these past months: LIDXA, Fla. DX'er, Mick

GRKDA (R.S.G.B.), John OH2YV, and locally VK3GL, VK3ZTL, VK3MY, VK4UC, S.w.I. C. Thomas LA01S, and others.

Good hunting in 1968. 73. AI VK4SS.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members, and those whose totals have been amended will also be shown.

PHONE

Call No.	Cnt.	Call No.	Cnt.
VK5MR	24	VK2JZ	41
VK3AB	45	VK3ADE	53
VK3C	2	VK4HR	12
VK6MK	43	VK2AK	58
VK1AHO	21	VK3KV	4
VK4FJ	21	VK3VL	14

New Members:

VK3ACD 67 145

Amendment:

VK1APK	64	VK3TO	48
VK1AGH	85		

C.W.

Call No.	Cnt.	Call No.	Cnt.
VK3C	10	VK3AG	71
VK3GL	5	VK3KZ	8
VK3C	208	VK3RU	2
VK4FJ	20	VK1AGH	70
VK3ADE	41	VK3AK	58
VK3NC	19	VK3XB	75

OPEN

Call No.	Cnt.	Call No.	Cnt.
VK1AHO	20	VK3AG	71
VK3C	10	VK3KZ	8
VK3C	208	VK3RU	2
VK4FJ	20	VK1AGH	70
VK3ADE	41	VK3AK	58
VK3NC	19	VK3XB	75

Amendment:

VK3ACD 94 151

BRIGHT STAR CRYSTALS

FOR ACCURACY, STABILITY, ACTIVITY AND OUTPUT



Our Crystals cover all types and frequencies in common use and include overtones, plated and vacuum mounted. Holders include the following: DC11, FT243, HC-6U, CRA, BTG, Octal, HC-18U:

THE FOLLOWING FISHING-BOAT FREQUENCIES ARE AVAILABLE IN FT243 HOLDERS:—

6220, 4095, 4335, 2760, 2524 Kc.
5.500 Kc. T.V. Sweep Generator Crystals, 23/12/6
100 Kc. and 1000 Kc. Frequency Standard,
25/10/6 plus 12½% Sales Tax.

Immediate delivery on all above types.

AUDIO AND ULTRASONIC CRYSTALS—Prices on application.

455 Kc. Filter Crystals, vacuum mounted, £6/10/6 each plus 12½% Sales Tax.

ALSO AMATEUR TYPE CRYSTALS—3.5 and 7 Mc. BAND.

Commercial—0.02% 23/12/6, 0.01% 23/15/6, plus 12½% Sales Tax.

Amateur—from £3 each, plus 12½% Sales Tax.

Regrinds—Amateur 21/10/6, Commercial 21/17/6.

CRYSTALS FOR TAXI AND BUSH FIRE SETS ALSO AVAILABLE.

We would be happy to advise and quote you

New Zealand Representatives: Messrs. Carrel & Carrell, Box 2102, Auckland.

Contractors to Federal and State Government Departments.

BRIGHT STAR RADIO

46 Eastgate Street, Oakleigh, S.E.12, Vic. Phone: 57-6387

With the co-operation of our overseas associates our crystal manufacturing methods are the latest.

gear, a room is being set up with test equipment to help the V.H.F. operator.

The January meeting will be held on 8th and is set down as an open night. The Group will be setting up a station again in the National Field Day in February. Regular and well attended fox hunts on both 2 and 3 mxx were held last year.

All the best for the New Year. T2, Tim Z2TH.

SOUTH AUSTRALIA

At last ongoing pandemonium reigns supreme within the confines of the S.A. 81.5 mxx. Although not unusual for this time of the year, it would appear that in the ensuing months a similar pandemonium will be avoided while to those who avail themselves and switch on their gear, which from observation appears to be more difficult to operate than the 81.5 mxx, activity in V3K will uphold the tradition. Up till the 28th Nov. stations in VK1, VK3, VK4, VK5 and VK6 will be available on a more or less instantaneous occasion. No activity from VK6 and VK3 has been reported as yet.

An excellent opening was experienced on 27th Nov. to ZL1, 3 and 2. Signals up to 8 and 9 plus were available in VK3 for up to 10 minutes.

It has been interesting to note the increased number of stations utilizing the practical advantages of the 3 DX. It is estimated that it is usual to copy a s.b. signal 15 to 20 minutes prior to and after the completion of a customary emergency. However, the obvious advantage of this apparent increased time of band openings more sideband signals are required to expedite the full advantages of the 3 DX. It is hoped that the use of the advantages of s.b. will be enjoyed by the majority of V.H.F. operators. As advertised in the bottle, let us meet with the strength, Bank S.S.B.

Anticipating the imminent launch of Oscar IV., many V.H.F. Amateurs are organizing themselves into groups to attempt to make an honest attempt into obtaining the most from the project, providing of course that the equipment is of a standard and the transmitter functions more successfully than that of Oscar III.

On 28th Nov. the V.H.F. enthusiasts in VK3, I wish to extend the season's greetings to fellow V.H.F.ers in VK and may the Sporadic E gladden down upon us. T2, Colin Z2KX.

WESTERN AUSTRALIA

November in VK3 brought with it a substantial increase in activity. As the season got under way, On Nov. 14, Andy Z2CN began the first DX for the season, with Max Z2FV in Perthdown class being the highest. The DX reports and worked have been coming thick and fast, including one of ZL television. This augurs well for the months to come.

VKEVF is now running beacons on six, two and 432, so all interested VK3 types can cease complaining about our beacons and start work on your beacon instead. There has been a move in the better beacons campaign in VK3 is to get the serials off BAW's back fence and into the hands of the interested parties. (I don't feel that an increase in coverage may result from so doing.)

The Christmas meeting of the V.H.F. Group was well attended and in contrast to the usual, was quite a subdued affair with very little serious discussion, mainly talking and getting their teeth into. Even the subject of the Christmas meeting generated very little emotion. A Party by Trevor Z2DN on Radio Adelaide in Australia, aroused much interest amongst those present.

The fox hunt was held in Bunbury as part of a Harvest on the week-end of 28th and 29th and after extensive motoring round Bunbury, Graham Z2DB was the event. Support was provided by many members' backlogs and next morning Andy Z2CN and Graham Z2DB organized and ran an f.m. c.p. in the form of a fox hunt. The radio club in the form of Wickepin beat the field and John Z2AG missed a turn somewhere and kept on going east far about the hills. The latter activity proved so nice when he got there that he decided to stay and take photographs.

Max Z2FV distinguished himself later on by spotting his neighbors while surfing, and all in all the week-end was a roaring success. Our thanks to the Bunbury types who arranged it all.

Activity on 6 mxx s.m. is on the increase, with the DX, and several people have been making good progress. Activity building up, too, but the bulk of traffic is still on the f.m. net on 33.68. Base stations and mobiles continue to provide a steady stream of activity on Chen A. (53.25). There is a fairly extensive a.m. net in operation also, mainly amongst the 1000 watt stations. The 1000 watt stations of frequency and activity are not to hand.

On 2 mxx, activity is still confined mainly to crossband and contacts prearranged elsewhere. But Andy Z2CN has been making a few "South Coast" contacts. The contacts are not finished, and don't forget that when six is open, Rolie Z2BO is often up on two looking east. (VK3 please note.)

There is a DX position planned to Experiences by Z2AY and Z2CN on 6 and 3 mxx over the Christmas to New Year period and others are dispersing round and about. Tony Z2DT to Mookatharra and Graham Z2DO to Forrest.

Nothing much has happened on 432 for some time. It is hoped that the technical aspects of the beacon will change all that and cause some building for that band.

As far as the 81.5 mxx is concerned, it will be on from Dalwallinu and Peter Z2RK is off to Onslow in the New Year, so some northern activity may be expected.

The V.H.F. Group of VK3 extends the compliments of the season to V.H.F. operators everywhere. To all of you eat of the rabbit-proof fence, we say and please point the beam west sometimes. MARY Z2CF.



YOUTH RADIO SCHEME

Some Youth Radio Clubs are fortunate enough to have their own Amateur stations and have been able to obtain the permission of Amateur Radio communications under the supervision of licensed operators. To cater for club members who show specific interest in amateur radio, the Radio Telephony Operators' Certificate are available in three grades.

Under the possibility of turning club members into mere "on-the-air chatters", the gaining of the Radio Telephony awards is considered crucial in the technical aspects of V.H.F. training. The Grade 3 R/T award is available only to members who already hold a Certificate in Amateur Radio. The Grade 2 award is the higher R/T awards assume further progress in the basic series courses. It is expected, too, that candidates for the Grade 3 award will have received systematic instruction in the handling of station equipment and in the operating aspects specified in "Practical Tests, para. III. before being allowed to participate in "on-the-air" activities.

It must be kept in mind that candidates for these awards are not in "public relations" representatives of the Youth Radio Scheme. Consequently, club leaders must ensure that only suitable candidates are recommended. Candidates should be given prior instruction in suitable subject matter for QSOs and should be made aware of the importance of QSOs. They are made aware of the V.H.F. activities involved in the gaining of these awards. It is hoped that the candidates will be able to put their experience, V.H.F. members who finally attain Amateur operator status will introduce a new era of snappy, efficient operating, free of some of the unwarranted mannerisms and idiosyncrasies which beset the Amateur bands at present.

The Log Books, which Candidates must submit, must be more than a bald record of the thirty contacts with other stations. These Log Books must be actively printed and contain a column for a candidate's own Amateur Radio "love", such as Amateur prefixes, reporting systems, pictures of Amateur stations (from such reliable sources as "Amateur Radio", "QST", "CQ", etc.), QSL cards, and similar relevant material. In short, they should be regarded as exhibits to a candidate's Log. Club leaders should insist that "only the best will do".

There must be many Amateurs who have sons and daughters with slight glimmerings of interest in Amateur Radio. The Y.R.S. Certificate Scheme, by providing a means of pursuing such interests may be fostered and the purpose of these incentives in "A.R." by the courtesy of the Y.R.S. to encourage them to pursue ALL VK Amateurs are aware of what V.H.F. has to offer.

—R. Black, VK3VA.



SOCIETY NEWS

The official publication of the Korean Amateur Radio League, "K.A.R.L. News" has just been received and although it has not yet been translated, appears to contain quite a lot of interesting information of local interest. The s.w.i. news section contains quite a good reproduction of the QSL card of WIA-2222. The paper is well printed and despite the rather poor quality of the paper, is very good and illustrates what can be done by a small club with little financial resources. Good luck to "K.A.R.L. News."

Sub-Editor LEW POYNTER, VK3GP
14 Esther Court, Fawkner, N.M.S. Vic

Writing this so early in the season seems to be a good time to stick my neck out and make a few predictions. By the time you read this you will be able to observe the results and comment in detail.

With 13 mxx open as early with good openings from 1.0 to 1.5, it would appear that we might enjoy an excellent season. Early openings seem to VK3 and ZL from VK3 makes it look like the 81.5 mxx season when these areas were worked in later November. This produced quite an outstanding season when the W.A.S. on 4 totals went up in great strides. The usual traffic between VK4 to VK6 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

With the early morning openings predominating from VK3, it could mean a reversal of form from last season when the openings for the best openings were in the late afternoon and early evening which put the majority of Melbourne stations off the air.

Whilst on the 1.5 mxx, some Melbourne Amateurs are experimenting with the use of f.m. to overcome these problems and from early reports it seems to be having a great deal of success. The use of f.m. has never been very popular in the past because of the receiver problems that have been associated with the use of the commercial two-way equipment has respected interest and use of modified, i.e. sound channels, and the use of the receiver problem.

The result is a low noise receiver capable of quite excellent results on f.m. signals which should go a long way to overcome the receiver problem.

The loss of the VK3 beacon will impose something on our VK3 DXers, as they will have to rely on their intuition to forecast conditions. The VK3 beacon was running from Z2AA and it is not well known if it will be back at the old QTH for a tryout.

A request to users of the 13.033 Mhz frequency. If you are a station user, please try to listen often and keep the ears open to allow others to use the channel. Better still, if you are not on the frequency, try to find another spot and don't tie up the hottest spot on the band. Many use fixed receivers and one station working makes it look like the best makes it extremely difficult for others. Some recent efforts completely gummed up the frequency for long periods and they never once listened to the frequency in many were called but none were heard.

There will be no notes in the February issue, so hope to see all the good wishes for the DX. Best of good wishes for '80 and please send in those logs for the Ross Null Contest. Run an extra evening off the air doing your log. T2, Z2GP.

NEW SOUTH WALES

An opening to ZL occurred during the week-end of 27th and 28th Nov. During Saturday afternoon, VK3ZYL was working ZL-2800 on 1.5 mxx and was working ZL-2800 and they worked cross-band. On Sunday at 1800 (E.S.T.) VK3ZLK heard and worked ZL-2800 on 1.5 mxx. The frequency was called but none were heard.

Don't forget the New Year VK3 Field Day, 3 m Saturday until 8 a.m. Monday. Activity appears likely from all mainland States and New Zealand. About 1000 stations are expected with the same number of home stations will be taking part.

During November 8 mxx started to open and several all State openings have occurred.

There has been steady activity in VK3 recently and a number of V.H.F. activity is spreading and several county stations are now using 146 Mhz f.m.

The New South Wales group transmits a broadcast at 7.30 p.m. on Sunday under the Group call sign VK3BWL, has seen a change in the style of the program. The program is now being installed in Wireless Institute Centre and will be used in the near future. Some broadcasts have already been done using portable equipment. Besides installing transmitters

FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL QSL BUREAU

B.R.A.L. Finland, new address as from 1st January, 1961 is: QSL, c/o R.S.A.L., P.O. 15306, Helsinki 16, Finland.

Cards for PA, PL, PJ and PZ stations can be sent via the P.A. QSL Bureau, VREZ, Post Box 101, Groningen, Holland. Copies of Regulations (in English) governing Amateur Radio in Finland may be had on application to this Bureau. The Diploma "Mocambique" will be awarded to every Radio Amateur contacting the CRT stations as follows:-

1. First, second and third class Diplomas will be awarded to the Amateurs having, respectively, nine, seven and six Mocambique districts with a minimum of ten QSOs with different stations.

(2) Only QSOs made after 7th October, 1960, will be considered.

(3) QSOs to be made on any authorized band (phone, c.w. or mixed), the minimum acceptable reports being RST 333 and R3 33.

(4) New Diplomas will be awarded separately for c.w. phone or mixed. Each CRT station can be worked several times, provided it is in different bands or type of transmission.

(5) Mocambique districts and respective abbreviations are: Cabo Delgado CD, Gaze GZ, Inhassane IB, Manica MZ, Mocim Mocambique MQ, Niassa NS, Tete TT, Zambezia ZB.

All CRTs will transmit the name of the district following the name of the town where they have the QTH, or just the district's name, in telegraphy, they will only use the abbreviations.

(6) This Diploma will be awarded to S.W.I. as well, on the same conditions provided they contact minimum 25 stations.

Applications must be sent to L.R.E.M., C.P. No. 113, Lourenco Marques, Mocambique, together with RST, L.C.R. and, if possible, the name and address of applicant, his call letters and the contacted CRT, band, date QMT and the received and given reports, as well as the type of transmission.

There is no need to send the QSLs along. MFABEK is now living in Melbourne. Name and current QTH not stated, but may be had from NEREM.

—Ray Jones, VK3JRM, Manager.

NEW SOUTH WALES

Well, another year is with us, and to start activity in the VK3 Division there will be two Conventions over the Australia Day week-end. The Division will be holding their annual event. On Friday night, the meeting at W.I.C. will feature a display of every mode and type of equipment being used in this Division. On Sunday the field events will be held at the transmitting station VK3WFL Dural.

On the same week-end a Convention will be held in Area 3. It is now being held at Tamworth not Armidale, because of accommodation problems. On Saturday afternoon there will be a tour of NEN CB 8 studios, a dinner at night and a field day on Sunday.

Further details of the fees will be sent in the Zone's Official Max VK3BMD at Scarve.

In February there will be the field day at Gosford and possibly one in the Hunter Branch.

At the Nov. meeting those on attendance heard an excellent lecture by SAOU on building an a.s.t. in the modern style. Due to the meeting that the fees of the VK3 Division be increased. It was adopted and as from 1st March 1961 the fees will be \$5 for full members and \$4.50 for associates.

The Canberra Radio Society met on Nov. 17 and the officers elected for 63 are: Pres. John IKM, Vice Pres., Les 1PT, Sec. John IGL, Treas. Bert Foray. Don't forget the Canberra Convention at Easter 1961.

SILENT KEY

It is with deep regret that we record the passing of:

VKSIT - Ivor Thomas.

W.I.C.E.N.

The following are the v.h.f. frequencies to be used in VK3 for W.I.C.E.N. Prime mobile frequencies 145.000, 145.050 and 145.100. The f.m. channels are (a) 33.850 and (b) 33.820, and a.m. (1) 33.780, (2) 33.820 and (3) 33.850. There are three relay stations, located on channels AL W.I.C.E.N. and frequency inquiries should be directed to the W.I.C.E.N. Secretary, Peter Campbell, 2A3J, 3 Erie Ave., Ashfield.

A reminder that supplies of both printings of the VK3 produced publication known as the Amateur Guide are available from this Division. It is worth a total of 10/- for both for 6/- to the second sub edition. Address all enquiries to "Hambook", Wireless Institute Centre, Crow's Nest.

All the best for the New Year and 73 from the VK3 Division.—Tim ZETM.

VKS DIVISIONAL FAMILI PICNIC

In spite of the very unfavourable weather and opposition from a DX Contest, the Divisional Family Picnic at Parramatta Park on Sunday 28th Nov. was a great success. Just on 80 people of all ages attended and took part in a programme of events not usually seen at gatherings of the Ham fraternity.

A long list of events kept everyone occupied and practically every person, in all age groups, showed the picnic spirit by entering the events willingly and appeared to thoroughly enjoy themselves.

The event that raised the most laughs was the wheel-barrow "mobile". This was a pair event, consisting of a punter and a passenger, the latter wearing headphones and carrying a dummy sniffer. Rounding the half-way mark, they changed over, and so back to the finishing line. Original idea was to have a wheel-barrow suitable for the younger men only, but everyone was loudly encouraged by the spectators to "have a go". As expected, the punter was the one of some poor gentleman flat on his back with his fish in the air kept the outciders in good humour. Incidentally, the wheel-barrow "mobile" was one of the shape of an egg, through a combination of our Federal Councillor's weight and a bump in the ground.

A billiard derby for the older boys was run on similar lines. A toddlers' race was held where they could take their parents and all children under the age of seven received a gift.

Many other events were held during the day. Before dispersing, there was some discussion about another get-together and it was decided that we meet again at the same spot for a barbecue lunch on Sunday, March 6 next.

BUYER BRANCH

Even before Christmas the loud bearded operator from OX had visited some of the Branch members and brought them gifts of wonder and delight. Stuart 2A7F was one who hung up his store and was found in it one morning a Codar ATS etc. This is a wonderful little device and only a handful but it goes on as well as 160 m and has all the usual features. It looks just like the car, so we may expect some more 160 models. We thought the frequency meter, one of the fortunate ones and his gift happened to be a kit for a Communication 18. The only trouble was that the frequency meter was a strange resistor in it and appeared to be non-functional until some translation from the original Italian was made when all became clear.

Even the Hon. Member for Gore Hill and William Street, David 2B5C, was not forgotten and he very large stocking was filled to capacity with an announcer's desk etc. the old firm, complete with a programme line to the House of Representatives. In the new year, they will be asking the questions when the loss is discovered. So at least he'll know when he's for the big bus. I foolishly had that I am, dreamed that some kind person presented me with a big bag of 807s, but, alas when I awoke, it happened that I had my head in the pillow.

Fred Z2FO and Henry Z2GK, who recently received their call signs, are working to get on the air on 2 m and Henry already has some f.m. gear, "almost there" as he told me. Fred has erected the feeder for the aerial, anyway, so he's making a start. If you see some strange clicking noises on the slow Morse

frequency in the weeks following this report you may be sure that it is your receiver which has been troubled by the Morse and not the transmitter. It is operated by the VL of the Lakeside Susan 2B5B. It is said that she now only makes a faint noise in the crystal when the strange noise will disappear only if heard again, but this time on the right freq. For the information of all interstate listeners who are wont to come about about this is the very same tx which one night was three cycles high.

Some of our members are noted for their low quality and low height aerials and it would be most remiss of me to leave them unmentioned here. Les 3HJ was threatened by the local council with a notice to erect the municipal boundary, while Paddy 3AXU is in trouble with the labour and industry men for not displaying the notice of the "increased dealer in old wares" correctly over the shack. He claimed that it was because he hadn't learned to spell school. What a difference one letter can make!

Those two overseas gentlemen, Ron 3ABJ and Gentleman Jack from Stockton, have both had a very busy time recently but from last reports they are improving and have promised to get well again for the new year. As a reward, Mac 3AMQ has promised a new rx to go for good results. The reason he's not offered it before is because he spends the time at night with his eye on the meters. It paid off recently though when he was able to really get amongst them and work all and steady on 6 m.

By this time Peter 2A1Y, one of the Cessnock crew, is on his way to G-land where he is making a very interesting study of many of interesting activities, not the least of which will be the wonders of Amateur Operating and his workbench companion, Sherwood 2A1Y, a former student of the mater, who has mastered some of the foreign languages used in those distant climes. He is progressing with German though. So far he has learned "I am single" and "What is your telephone number". So he should have no trouble with the red of the Northern Hemisphere. 3BZ is brushing up on the foreign tongues and knows everything on the front of that exotic creature which adorns the shack. He has no problem though. Can someone help with the disposal of several dozen large honey jars?

The Australia Day week-end looks as if it will be a very interesting time for local operators who have the choice of two field days at Tamworth and Dural—in which to partake. Whoever way you travel, you are assured of a good time as plenty of activity is planned. There is even talk of a "mystery voices" competition for the Northern Hemisphere. It is hoped that this includes the few fractions of a second before the tx is modulated. Then some one on with a "chuck" will easily be recognised.

Don't make the mistake of attending the Country meeting at Tamworth as there will not be one, but Frank 3AFO has arranged that another of the Mulart staff members will be lecturing at the next meeting which will be on February 4. This is a very good idea and Hunter Branch meetings will be given in the weekly news broadcasts from 3A7K. If you are short of money, there is a fund for the including the I.U. Fund. It deserves your support. Well, that's enough for one year. See you when the dollars are about 75, 3A7K.

VK2 DIVISION, W.I.A.

Australia Day Week-End:

Brassey-Divisional Convention
Melb. Fri. 4th, Sat. 5th, Sun. 6th
Tamworth—Area 3 Convention
Dinner Saturday, Field Day Sunday.

February:

Gosford and Hunter Branch Refer to Divisional Bulletin for details.

March:

Barbours First Sunday in March, at Parramatta Park.

CENTRAL COAST

The last meeting of the Central Coast Section was on 18th Nov. The evening was taken up with the general business and some important decisions were made. It was unanimously decided that the Central Coast Section should become a Branch, which was the result of much thought and investigation over the last few months. Members appreciate the value of W.I.A. leadership and are proud to contribute to the success of the section.

Lindsay 2ON has now returned from overseas and was elected Vice-President to fill a vacancy caused by the resignation of Les 3AKL. We know that his full time-table will now allow him to take up the interests of the radio club again.

Our best wishes and 73 to Frank 3AFJ, who has been laid up with a couple of broken ribs. We certainly hope he is all better by the time this copy of the paper reaches him. His family have been in an accident and have not yet completely recovered. It's much sadder to say in the shock these days.

The date for the Field Day at Gosford has been set for Sunday, Feb. 27, with the location the Race Course as in previous years. At the moment a date this late in the year has not been arranged, but there will be the usual scramble, hunt, lunch, sight-seeing trips, etc. We are sure that the day will be a success and very often from overseas as well. I hope this message reaches a few readers who may be planning to try it in the district and make a useful note of the date—Sunday, 27th February, 1966.

I trust everyone has enjoyed a happy holiday season and wishes everyone a happy new year for a happy new year on behalf of the Central Coast members. 73, Mona 3AKX

VICTORIA

EASTERN ZONE

It has been many moons since the Eastern Zone notes graced the pages of "A.R." so from now on hope to see interesting material. I doubt that our volume of notes will reach those presented by Parby, but we'll do our best. After this introductory we'll get on with the business of letting you know what has been going on in the Eastern Zone.

The 19th Eastern Zone Convention was held at Traralgon, Victoria, on Saturday, 26th Nov. Upon registration, each attending Amateur received a handout from the A.W.V. The translation of the handout was very helpful data handbooks. These are valued at over £1, so even for these the Convention was a success. The handout also included equipment by Fred B1 attracted much interest amongst the attending Amateurs. Fred 3YS even let me have a go at tuning up the rig and it is a high tune-up, the state of tune up—no high tune-up currents, which always seem to be good for the nerves and for the final a.s. tubes—plus other pleasing features.

Thirty-nine Amateurs and 5 W.I.s, including their wives and kids, did the dinner on Saturday evening. After the meal we men were left to get down to the business of the annual general meeting of the Zone. The highlight of the meeting was the presentation of the Kinnear Trophy to the Zone by John 3OR. During the meeting considerable discussion was held on the future of the Zone and the organizers of W.I.C.E.N. It is hoped that the Zone will be taking part as a multi-operator team in the Field Day on 27th Feb. The problem now is where and by what device means a 240v alternator can be acquired. During next May it is expected that an activities day will be held within the Zone. The zone hook-up is being revived and is on or about 2850 kc. and will be conducted by Merv. 3LL.

on a Friday night at 2000 hours. Dig out those crystals chaps and let's hear those 3 meter pinning signals.

As usual at such meetings, much reluctance was shown by members to accept nomination for the vacant offices, but with a little arm twisting the following were duly elected to office: Pres. Red 3AWV; Vice-Pres. Graham 3TH, Sec./Treas. Stan 3ZAB, Zone Organizer, Graham 3QZ, Notes Correspondent, 3JG, and Emergency Liaison Officer, Graham 3QZ.

On Sunday all attending the Convention were taken to a picnic at Bushy Park and then to Channel 4 and 10 taping stations on Mt. Tassie. From Mt. Tassie contacts were made on both 3 m. net and 8 m. x m. net. Mobile operation was on 2 m. and 8 m. was the order of the day whilst on tour.

Luncheon for all was provided at the Calligarr Hotel. During the afternoon much bar-bashing took place, with members showing how their mobile rigs did or did not operate. All Mobiles seemed to give quite creditable performance. David Tanner, now in VK4, flew down from Mt. Isa and certainly came the furthest to the Convention. George 3ZCG must have been a bit of a troublemaker as he overloaded vehicle as far as radio gear was concerned. Just one query George. Does the Mini or the Beetle have a 3 m. net in the area?

The St. Anne's Youth Radio Club in Sale has now gone into recess for the rest of this year. Due to the trouble with the working of the English language the proposed final operation day had to be cancelled. Next year it is hoped that you will look out for the call sign 3ACB on the 80 and 40 m. bands. The club has been trying on alternate Saturday mornings between 1900 and 1100 hours.

The 8 m. x m. net is going quite well in the general area around Sale. Results are fairly consistent and the very transceivers are being obtained. The 3 m. net in the area will have at least one base station and one mobile. No VKs have been worked as yet this season. The last one, Stan 3EAV, was heard at good strength.

Well that is the lot for this month. If anyone has any comments or wishes to be pleased to receive it for the notes. Thank you for your notes Stan. 73, Rodney 3JUG.

WESTERN ZONE

Merv. 3AFO transferred from Hornsham to Woodonga. The Zone wishes Merv good luck, health and happiness in his new 7TH.

The Western Zone is still in the constructional stage and looks very impressive. The Western Zone is the locale of the 1966 State Convention, which will be held on the week-end of April 23 and 24 (Sat. and Sun.). An interesting and educational week-end is being planned. The Zone is making arrangements, in conjunction with the committee of the Western Zone. This will be a highlight of the activities of this Zone in the coming year.

Welcome back to Chas. HB, of Dimboola. Chas. recently returned from the Islands and has some very nice Collins a.s.b. equipment. He is based in the zone book-ups.

Neville 3AAQ, of Ararat, recently entered double harness, so he cannot be seen at the moment. He is a team and he is holding the of his return to the fold in the not too distant future.

Geoff 3JG is now the possessor of an FL30B a.s.b. rig and is making with the "duck tail". Getting good results too, but the a.s.m. rig is still in the shop and needs frequent. Hopes to put up a duck like 3AQD.

QUEENSLAND

Activity in the Sunshine State has been running very high over the past several weeks. The major event was the 8th Jamboree on-the-Air. Vice 4VZ and a team of other fellows, together with loads of h.f. and v.h.f. gear, antennae, etc., and some hundreds of Scouts, were located down at Mt. Cootha when the time was called by all several VKs took their gear to Scout shacks—excuse me, dens is the right word there. And lots of other rig and antenna gear was also there. Their QTH for contacts. Activity ran very high on all bands and some excellent contacts were made. Scout Headquarters was very busy. Was never off the air except when the duty operator dropped off to sleep.

The VK-63, DX Contest really stirred up activity and many VKs really went for the contacts. During the contest there were openings on both 15 and 10 m. The c.w. section was very busy and a collection of contacts was made on 20 m. and the band was open the full 24 hours.

Al 4LT has a new 3X11A rx and it perks f.b. and really helped him 1x in the contest. Doc 6MO had a spot of transceiver trouble,

but quite OK now and has a beam to go up shortly—so more QRM, h. Don 4GP has his quad up to 80 ft. boom height and is arranging the guys with 20 m. and 40 m. and 80 m. and as inverted vee dipole. Norm 4TY, Arthur 4PK and Harry 4RH always seem to be omnipresent and 20 m. and 40 m. and 80 m. and the rare DX. Reg 4VX having good success with ground plane antenna on 30, with feed point 3 ft. from ground, and gets a small share of QRM.

Eddie 4OW on a mobiling holiday to the northern States and operated 30 and 40 m. a.s.b. much of the time. He is out well as his dipole, has a new beam on the way and will put it up about 80 ft., so will be in the 30 m. band. He is also out well as his beam is a 20-15 m. beam which works out f.b. and is now putting a 15 m. x 1.5 m. beam just below. Peter still operating a.m. but the mobile DX is not so good. Peter is still running around with a nice triband commercial transceiver in his "bomb" together with a nice three-band mobile rig. Evan can change bands whilst in motion by quickly reversing the car so the whip comes forward and can be caught from the rear window and screwed up or down to the right band.

Jack 4SF, up Ipswich way, getting a bit of DX 40W now and again. Ron 4RG building up a transceiver from commercial gear. Chas 4ED certainly has been working out Chinchilla way. All the DX 1x call goes back to him, his Wednesday night is 15 m. "Rude" and 40 m. and 80 m. and 20 m. and 40 m. and 80 m. can be heard on about 28.5 mhz. every Wednesday night from 3.30 p.m. on, but on hurling insults at the other fellows. Al 4OL is out well as he way, comes in on the 16 m. net most nights, but is too young to throw compliments at the other fellows. Al 4OL is out well as he way, comes in on the 16 m. net most nights, but is too young to throw compliments at the other fellows. Al 4OL is out well as he way, comes in on the 16 m. net most nights, but is too young to throw compliments at the other fellows.

The Ipswich and District Radio Club are pleased to have the club house in Ipswich. Working bees have cleared the site and the building is now under construction. The local council my spies tell me that they were presented with a nice lot of windows from a building being demolished, the plans for the building have been drawn around the windows. Amateur members of the club have their weekly net on about 16.15 mhz. every Thursday night. The club is out well as 48F and 4HW are amongst the most consistent in the net. 73, Reg 4VX.

TOWNVILLE AND DISTRICT

This being the New Year, let's hope that it will be much better than the one that has passed. Not much in the news for the moment, but the W.I.A. grows bigger and better than ever. That New Year's resolutions are made that we all rock our shoulder to the wheel and try to make a better world. The executive come time, insofar as that the I.T.U. upholds the standing of the Amateur Society by the fact that the Radio Club in Townsville could once again come to life. What a good thing that would be as we are getting older and perhaps a bit bygone. We get together again and let bygones be bygones. No club with new Amateurs in the district. The club could really get going. New blood in the ranks. The club is out well as 48F and 4HW are amongst the most consistent in the net. 73, Reg 4VX.

Nothing much to report in the way of news of the locals, but I can still hear them. The club is out well as 48F and 4HW are amongst the most consistent in the net. 73, Reg 4VX.

Believe that Eddie 4WH will make a come back this time with some really nice equipment. He is out well as 48F and 4HW are amongst the most consistent in the net. 73, Reg 4VX.

SOUTH AUSTRALIA

The monthly general meeting of the VK3 Division for November was held in the club rooms in an attendance of about 30 members and took the form of the annual Xmas Party and was a most enjoyable evening. It was initiated that it is a little early to hold such a gathering in November, but from our experi-

W.I.A.—VICTORIAN DIV.

CRYSTAL BUREAU

Please note that as from the 1st December, 1965, the Crystal Bureau will cease to exist. For reasons beyond our control, it has been found that it would be uneconomical to carry on with further business. All unfilled orders in hand will be attended to as the stocks become available, but all future orders for new Crystals should go direct to the suppliers.

NOW AVAILABLE—

1965 EDITION

★ A.R.R.L.—Radio Amateur's Handbook

The Standard Manual of Amateur Radio Communication

Price 58/6 and 2/6 Postage

★ The Radio Transistor Handbook

by Stoner & Earnshaw

Price 64/9 and Postage 1/9

THIS UP-TO-DATE HANDBOOK COVERS A WIDE RANGE OF COMMUNICATION
FOR BOTH AMATEUR RADIO & COMMERCIAL APPLICATIONS

MCGILL'S AUTHORISED NEWSAGENCY

Established 1860

183-185 ELIZABETH STREET, MELBOURNE, C.1, VIC.

"The G.P.O. is opposite"

Phones: 60-1475--6-7

FOSTER DYNAMIC MICROPHONES FOR HAND-DESK USE

SPECIFICATIONS:

Output Impedance	...	50 ohms or 50K ohms
Effective output level	... —55 db. [0 db. — (one) 1V. Microbar]	
Frequency response	...	200 to 10,000 c.p.s.

OMNI-DIRECTIONAL DYNAMIC:

SIZE: 3" x 2-1/8" x 1".
Cable: 12 ft. of P.V.C.
Switch: on-off.
Desk Stand. Clip folds for hand use
Colour: WHITE.
Plastic Diaphragm.

Retail Price
50K ohms
£2/14/0
+ Sales Tax 4/9

A QUALITY PRODUCT OF EXCELLENT DESIGN

Marketed by **ZEPHYR PRODUCTS PTY. LTD.**

58 HIGH STREET, GLEN IRIS, S.E.6, VICTORIA

Phones: 25-1300, 25-4556

Manufacturers of Radio and Electrical Equipment and Components

Agents: D. K. Northover & Co; Neil Muller Ltd.; Homecrafts (Tas.) P/L; Jacoby, Mitchell & Co P/L; T. H. Martin P/L.



DF-2



since it has been found that we get a better roll-up at this time of the year, due to a dole of the fact that the usual gay and festive season has not quite begun and members are therefore not so likely to be caught up in the social whirl. This means that we can be solely for the menfolk, but it was felt by some that possibly the ladies might like to see the parade in the last four years and as it has become known as the Ladies' Night.

However, for some reason or other, the XYLS and YLS have not responded to any extent, and the same handful of "Good and faithfuls" have been the only ones to turn up, more or less. Many said they were the reasons advanced as to why the ladies have not taken to it, but it is felt by many that the ladies are not interested in XYLS and YLS are never told until it is either too late to attend, or worse still, until it is over. Anyway, it is a pity because the night's entertainment is well worth coming along for and a bigger attendance of the female of the sex would be an added incentive for the committee who go to such trouble in organising the night. (Maybe if the girls were told that Paddy would be in attendance, there would be a record crowd.—Ed.)

Two excellent films were screened to those present, one on the space tracking station near Canberra (I kept my eyes open for a possible "hot" item, but it was a bit of a background, but nothing doing), the other on the general set-up of Woomera, both by courtesy of W.R.E., and the conclusion of which, supported and the last of the night was spent in general "nattering".

A good time was had by all and I think a determined effort should be made next year to increase the number of XYLS and YLS attendances.

Incidentally, thinking along the same lines, what do the organisers of the annual V.H.F. Picnic do to attract such a good roll-up of the XYLS and YLS each year. At first glance, this excellent annual event seems to attract more of the opposite sex than v.h.f. members, and of course, the fact that the arrangements are made among the fair sex is to be sure and met in 13 months time. It might not be a bad idea to Council go to the v.h.f. organisers and found out the secret of their success with this side of the entertainments. Held at Walnut Paddock in the Northern Territory, the picnic has a lot of cream and cool drinks for the harmonies, plus slides and swings, competitions with very good prizes, a show, a band, a bar, a place to park the chariot, and ample fireplaces for barbecues, the details of this annual event being in the Council's hands. However, as it is a v.h.f. set-up, I cannot risk being charged with interfering by the v.h.f. scribbles—no, need.

Gilbert GKG is home from the hospital after his chest operation. He is still feeling OK again, although he is still taking it quietly. When I rang him to enquire as to his health, he was in the midst of watching the cricket on Channel 2. What it is to be a millionaire!

I felt that when the Magazine Committee printed that photo of that dull bluffer from VK3, that he was a real dud. He had a touch of rock bottom, but now I have my doubts. Did you cop the photo on page 14 of the "Sound" issue? The "Sound" and "Sketches"? Gazing at this intelligent, youthful and innocent face, backed up solely by "The Thing" war, I wonder if the Magazine position, could one imagine for one second that he was badgering me for high on seven years in the "Sound" and "Sketches" and missing no opportunities to belittle me. A good photo DDD, so much so that it has joined Comps KEF and one or two others with rock bottom. I am not sure if it is the "Sound" sideboard room"—and on the back of the door, too.

T.V. was well to the fore on 7 Mc. The other stations with their usual variety of programs, 12-Huckleberry-Hound, and Merry 5-Yogi-Bear hooked up in a three-way. Jack S3S and Basil S4B1 tried to get into the net but did not succeed in re-broadcasting the program. I could think of a suitable phonetic call sign suitable for such an exclusive gathering.

Jack 4J7 was a visitor to VK3 this month, but he was not in the net. He was in the net until the last day before he left for VK3, and so once again I missed him. He was seeking the whereabouts of George and I told him that he was in the net. I don't suppose he met up with me. His seeking these two out leads me to believe that he is a bit of a wanderer. He was in the net in VK3. If my memory serves me right, was in 1984, and I only had a telephone contact with him then. Third time lucky perhaps?

OBITUARY

IVOR THOMAS, VK3ET

The VK3 Division announces with deep regret the passing of the late November of Ivor Thomas, VK3KIT, at the age of 81 years.

Well known as a member of the W.I.A. (South Australia) pre-war, and as its first post-war President and Chairman, he was much respected for his knowledge of the Division and to guide it through the difficult early years which followed World War II.

Known to all old-timers in VK3 as the "Father of the new constitution and the subsequent incorporation of the Division," he was tireless and his example inspired the members of his then Council to give of their best. His main activity was on 10 metres at the conclusion of the war and his well known "vkebs" on that band with the Kiffe culminated in his making a trip to that area to meet many of his contacts in person.

The latter years of his life saw him was out of Amateur Radio activity, although his interest in the VK3 Division never waned, and although his unexpected passing never allowed him to make close friends, those to whom he gave his friendship will always remember him for his interest in Amateur Radio, his efficiency and extreme generosity, and his understanding approach to the many administrative matters which came with the re-forming of the VK3 Division.

To his two daughters, Ann and Laurel, the Division extends its sincere sympathy.

A newcomer to VK3 is Tom 3GV (previously 3GVY) and is now working at the B.B.S., which for the last few years has been a working station in the State. If not VK, I have only met him a couple of times for a short period, but he is a very friendly and a worthy asset to the Premier State!

The Youth Movement column had a call for correspondents from the various States last month, together with an insulting reference to the lack of interest in the Youth Movement column. I cannot make a suitable reply, but Ken IKM had better be careful, one of these days I will take an itty-bitty peckaboo and then look out!

Talking of the Youth Movement, and why should I talk of such a subject—it only helps to the joy of the subject. I am sure that VK1—anyway, in our own quiet way in VK3 we are doing our little bit to push the cause forward for the benefit of the Youth Movement. I could tell quite a lot of the details of these hard workings for the cause. One of these days I will let my hair down on the subject, but would he believe me?

With respect to the proposed Bill to provide for the licensing of radio amateurs and contractors, soon to be introduced into the VK3 Parliament, as instructed by Council a delegation consisting of Comps KEF and Wally Warwick SPS waited on the Minister of Works, Mr. Hutchens, one morning this month. In the brief time that they were with him, Keith emphasised that it was definitely non-political and that the sole reason for its presence was to clear up a doubt as to how the proposed Bill and the proposed KEF and Wally Warwick and the prospective radio amateur, some of whom were at present associate members of the Division, standing in the position of the Licensed Radio Amateur, with respect to the Bill, in a reply to a letter from the Council. The details of the whole matter from the viewpoint of the VK3 members, giving him some examples to support the remarks. The details of the whole matter, a typed copy of suggested amendments to the Bill, as approved by Council.

Mr. Hutchens stated in reply that he first would like to congratulate the delegation on the initiative and the way in which the matter had been presented to him and that he had received numerous approaches from the public and the press, and that he was people regarding the Bill, and he said that if the Bill became law, it would probably take several years to fully implement it. He said that the outlook of the Government towards controls could have changed. He assured these present that the interests of the learner and prospective radio amateur were of paramount importance as he and the members of his advisory council fully realised that this was an electronic age and every help and encouragement should be

given to the up-and-coming youth of the country and, at Mr. Parson's request, he gave them a 15-minute address on the Divisional column in the local newspaper.

The delegation feels that although nothing concrete was achieved, it was not one of the doubts were raised in the Minister's mind, and in view of its cordial reception and the Minister's willingness to consider the case for the Division, the cause and status of the full and associate members of the Division has not been lessened in the eyes of the Minister.

Speaking for myself, I went into the whole situation and acted as a member of the delegation on a sidekick in a somewhat manner, principally because I felt that we could possibly end up by "Playing Politics," something which I have never done before. However, I soon had a change of mind as I listened to the able and restrained manner in which Mr. Hutchens presented the case for the Division, and I was without hesitation that the appointment of Keith as ex-officio member for the purpose of handling this matter was one of which Council can congratulate itself upon. Comps KEF will be the first to admit with me that he and I simply "Went along for the ride," and full credit for any results that might arise from our meeting with the Minister goes to him.

Speaking now as the scribe for the magazine, I cannot but help point out that adversity for doing so. I am sure that you can imagine Comps KEF and myself as fellow members of a delegation? Why have we never had any attempts in the past on the subject of "The Thing," and it was quite remarkable that we both could keep quiet on the subject. However, don't let it fool you, the battle is still on and after we shook hands—somewhat furiously on my part—the lift door preparation was in progress. I told him that Mr. Hutchens would never know how close he had sat to a professional scribe. He said, "I am sure of course that his taste ran to duck!" His reply would have done nothing towards improving the reputation of Radio in the mind of the said Mr. Hutchens!

Heard Doug RKK on 14 Mc. the other afternoon. He was a bit of a chatterbox. He is in the thick of completely re-building his v.h.f. gear and does not expect to be a contestant in the Ross Hull Contest this year. He told me to hear you QSL and using "The Thing," too!

Also heard Les SLC and Charlie SON on 14 Mc. They were a bit of a chatterbox. They also, and the list of DX they were reading out to each other as worked for the week was quite a list. They were a bit of a chatterbox. Strangely enough, Les worked most of his in the early mornings and Charlie worked most of his in the late night. What it is to have such enthusiasm!

Talking of "The Thing," and only I realise just now much I am doing that lately, much as Comps KEF delight, have never realised for even a second just how seriously the VK4s would take me in my reference to "The Thing," a "piss" in the middle of the morning and then staring me in the face was the headline—"Brisbane searches for 'The Thing'." Being a bit of a chatterbox, I noted that 5,000 ghost hunters swamped the city's Victoria Park to search for "The Thing." I am sure that they were a bit of a chatterbox. The people who were hurt in the crush. Well, how about that? My one-line reference to their never being able to grow a straight hair, and a man's mind, and a fair number of people looking for "The Thing." Did you ever?

Well, here we are again at the commencement of another year. I am sure that the opportunity on behalf of the Council and members of VK3, to wish all Radio Amateurs and contractors a happy New Year, and may it bring you everything that you desire. Also at this time, old fogies, such as me, and others, have the little matter to give the O.M. and the YLS a little advice. If you are wondering just what are the qualifications required before one can give such advice, I am sure that you will find that these names I have conveniently forgotten, who once said, "To give advice to the young, one must be old, and have a lot of experience, to give an air of wisdom and experience; a resilient stomach, to give an air of success and a belief in oneself; a good heart, to be a competent, haemorrhoids, to give an air of having suffered in this vale of tears, and therefore being able to understand all."

Posing to be a wise man, three qualifications, and a good chance of one day soon possessing the third, I now pass on my advice for 1986—Since you never drink, you appear to be a good person, and you are not drinking at home, possibly in your shack?

Give your XYL #1/18—, and tell her to ring the local society and have your caution of

the amber liquid delivered to your home. There are 348 drinks in four cartons. Buy all your drinks from your XYL at 1/- a glass.

At the end of seven days (when the cartons are empty) your wife will have £18. She can then buy four more cartons and bank the £48/0 balance. If you live 10 years and continue to buy all your drinks from your XYL then pass out with your boots on, your widow will have approximately £4,576 plus interest. Enough to bring up your children, pay off the mortgage, and have a decent man and forget that she ever knew a "no-hoper" like you. See you in 1966—not you Pincetti 13, de SPS—Fansy to you.

WESTERN AUSTRALIA

News is rather scarce this month due to recent causes. The main one being very poor conditions, particularly 40 and 80 mc, however the higher bands are exceptional at present particularly 16 and 18 mc.

Absent from the bands for quite some time is John 6GU. On the grape vine we hear that your work has taken you to the beautiful south of the State. "Temporary period of course." Clem 6CW has sported a rather classy ra. It has the appearance of a Collins but I don't think it's one of those. Herb 6XO returned safely from VKS trip and by all accounts Herb and family had a most enjoyable time and had fun both ways.

Don't hear much activity lately from the lower region of VK6—that is Albany. It is most unusual not hearing 6K's local signals.

The country stations of this area are 6H, 6CW, 6XY along with John 6ZBY have made contact—Narrogin to Perth—on 8 mc, also worked mobile Bunbury. We do note Pat 6PR takes a leading roll in the bush fire emergency link. Congrats, Pat. Ian 6CX must be all bottled up. We will have organised a fox hunt or something, to start off at QTH in Ian 6CX. "Well that should at least stir his enthusiasm."

We do hope that the holidays will bring a few more units into the lower 40 mc bands and create a little more activity in VK6. If John 6ZBY gets his c.w. complete, he would certainly be an asset to the area. Could then call him elusive mobile. He sure covers a vast area in his travels.

On behalf of the VK6 Council, I wish all readers of this column all the best for a very Happy Christmas and Prosperous New Year 1966. T3, Bob 6KN.

TASMANIA

We welcome three new call signs during the month of November, namely TRO, Leo Gunther, ex W6THN; TLY, Mrs. Anne Jenner, ex VK1ZYL; and a call sign to Joe Gelsen, which eludes me at time of writing. Congratulations to all three.

Campbelltown was once again the site for one of the major events in the calendar of Amateur Radio in VKT, namely the Hamfest which took place on the week-end of 27th and 28th November. We were blessed with excellent weather, particularly on the Sunday,

COMPUTER CIRCUIT BOARDS

containing transistors, resistors, condensers, diodes, etc., 2/- per transistor. We also stock 1600v, 3/4dia. diodes (two for 30/-) and 250V, 100mA transistors. 050v/150, 5/5 ea.

AUSTRALIAN ELECTRONICS

(formerly "Electronics Associates")

76 View Street, Hobart, Tasmania

Repairs to Receivers, Transmitters; constructing and testing; xtal conv., any frequency; Q5-ers, R9-ers, and transistorised equipment.

ECCLESSTON ELECTRONICS

146a Cotham Rd., Kew, Vic. Ph. 80-3777

Stockists of Radio and Electronic Components for the Amateur Constructor and Hobbyist

First Ring, Write or Call on

WILLIAM WILLIS & Co. Pty. Ltd.

428 Elizabeth St., Melb'ne. Ph. 34-6539

and a great crowd attended that day as a result.

Success at this function was due to many, but I single out the following for outstanding service: Dave ZTAS organised the supply of tx's for the various bands for the exercise on the Sunday; Geoff ZTAS did more than his share, both in bringing out to Campbelltown, helping in its erection, and afterwards in its dismantling, and in the general necessary but not an obvious jobs needing to be performed in between; Max TMX was a very genial leader for the children's activities during the Sunday.

Mobile operation during, before and after the Hamfest was most pronounced. We believe that about 40 mobile stations were heard. The 6 mc mobiles predominated, but 80 and 2 mc mobiles were also heard in reasonable numbers.

On behalf of the Division, I convey the best wishes of all of us to Dave VKTAY and Mrs. Berry upon the celebration of their marriage on 20th November, and we wish them every happiness for the wonderful years to come.

I wish to bring before all members the fact that three members of Council have indicated that they will not be seeking re-election at the next Council elections in March 1966. If you feel you are able to play a part in the administration of our Division, then it looks as though the opportunity to serve your fellow Amateurs is open to you.

Finally, I apologise for the notes being written by me, but Geoff ZTAS has been far too busy in business and Divisional affairs to pen these notes for this issue. Bob 633 and good hunting during the holiday season, Ian TZZ.

HAMADS

Minimum 5/-, for thirty words.

Extra words, 2d. each.

Advertisements under this heading will be accepted only from Amateurs and S.W.'s. The publishers reserve the right to reject any advertisement which appears to be of a purely commercial nature. Copy must be received at P.O. Box 88, East Melbourne, C.S. Vic., by 5th of the month and no alterations should accompany the advertisement.

COLLINS s.s.b. gear as new. 75S1, 32S1, 240v. power supply. Go first class at no extra cost. New 195C, Clarence St. P.O., Sydney, N.S.W.

COMM. Receiver, Hallicrafter "Super Skydriver" SX28, full coverage 500 Kc. to 30 Mc., complete with auto transformer, loud speaker and an extra S-9'er, £70 the lot (an excellent performer). Spider for Quad Antenna, made from 1 1/2" gal. pipe, 30/- Quantity of Relays, coils, Condensers, Transformers and Valves including 6DQ6, 807, assorted miniature, octal and metal; and for Type 3 Mk. II—6L6, 7Q7, 7R7. All cheap. A. W. Chandler, 1536 High St., Glen Iris, Vic. 50-2556.

FOR SALE: Everything must go! Recording equipment, radios xmtrs, instruments, parts, etc. List from B. Eastwood, P.O. Box 93, Traralgon, Vic.

FOR SALE: Set of four Command Transmitters, 80-40-20-15 metres, modified for 12v. operation, buffer-doublers, fine performers, £7 ea. or £25 the four. Unmodified 5.3-7, £6. Command Receivers, 3-6, 6-9, £6 ea; Q5'er, £8. AR7 c/w. power supply and speaker, £35; AR8 ditto, £20. SX24 £25. 128 Transceiver £5. Lafayette G.d.o., as new, £16. University Multimetre, 100 amp. type, £8. VK2AQI, 86 Campbell Hill Rd., Chester Hill, N.S.W. Phone 644-4343, 6-8 p.m.

FOR SALE: Unused Geloso V.f.o., 4/104, 80-100 mc, £10. Unused DL3DX Ground Plane, 20-10 mc, £10. Karl Krueger, DJ3CA, 78 Macedon Rd., Lower Templestowe, Vic. Phone 850-3548.

K.W. Viceroy, 3.5-30 Mc., with p.s., good order. New 3-el. Mosley Tri-band Beam. £48. Phone 84-7497 (Vic.) 3MM, 2 Parker St., Reservoir.

SALE: 3 Channel F.M. converted SCR522 complete, full metering, control box and original a.c. power supply Type V, £20. VK31Z, Phone 41-0511.

SELL: Complete kit DCS500 Rx, as described in ARRL H/B 1962. All imported U.S.A. parts. Chassis cut out and ready to wire, complete, £65. 100w. Modulator, zero bias 807s, etc., not wired, Woden UM3 M/Trans., £30. Var. regulated supply, 600v-700v, 250 mA., 11 tubes, £28/10/0. Xtal Freq. Marker, 240v, 90-180 mc, ex R.A.F., needs attention, £8. Power Supply 4C/S cabinet, 600v, 200 mA., 6.3v. a.c. £4. £8. Open for offers on all above. Rich Hill, VK3RC, Phone 842-2630, 11 Highfield Rd., East Doncaster, Vic.

SELL: "Nanaola" 10 transistor, 5-band deluxe portable Receiver, contains telescopic aerial, tune meter, fine tuning, input for gramophone and headphone output. Covers 140 Kc. to 28 Mc. Very good condition—£35 or reasonable offer. B. R. Wilson, VK3IG, P.O. Box 598, Shepparton, Vic.

SELL: 2 only 4CX250B tubes and sockets (SK600A), £15 ea. Complete 2 mx Transmitter, 25w., very clean 2 mx a.m. signal, separate power supplies for main h.t. and low h.t.v., 250-410v. regulated, rack mounted with panels sprayed blue, fully shielded, no i.v., xtal mke, £38. 2 mx 10 m over 10 element Yagis and 5 element Yagi 6 m Beam, all aluminium, epoxy resin sealed throughout, 2 mx s.w.r. 1.1:4 at 145 Mc., the set, £30. Two DK60 Dow Key cover relays, b/w, £8/10/0. Two DK600 Dow Key cover relays, b/w, £10 ea. U.H.F. P238 connectors. Offers taken on all above. We are not going out of business just clearing the shack before moving QTH. Rich Hill, VK3RC, Phone 842-2630, 11 Highfield Rd., East Doncaster, Vic. All inquiries answered.

SURPLUS gear. S27 receiver, 27-143 Mc., with handbook, ex-VK9XK. BC824, BC625, misc. v.h.f. gear. AR7 dials complete, transformer 240/110v. 500va. Handbooks for the AR7, AR2B, SCR522, RA1B-11-J, RU18-19, BC224F, BC348J-N-Q, RC39B-43B, TA2J, TA3B, GO9, BC375D, ATB, BC-191F. Best offers. VK3AXK, 28-4968.

WANTED: Circuit Diagram and/or Instruction Manual for Weston 774 Type 4 Analyzer either on loan for copying, to buy, or to trade. Will be most grateful for help. D. R. Ayre, VK3KP, Tel. 50-7387 (pvt.) or 87-9601 (bus.).

WANTED: Gill Motor or similar for Beam Rotator. Also BC348 in poor shape, must be good mechanically. VK31Z, Phone 41-0511.

WANTED: Ham band(s) (80 mc preferable) Receiver, b.f.o., a.n.l. a.v.c./m.v.c. (if possible), suit novice s.w.l. with view to becoming Ham. Prices and particulars, P. J. Tyers (WIA-L3280), Tyers Rd., Bena, Vic.

A LARGE RANGE OF TRANSMITTERS, RECEIVERS, TEST GEAR, AND DISPOSALS RADIO PARTS AVAILABLE

★ SCR522 V.H.F. TRANSCEIVERS

Frequency range: 100-156 Mc., xtal locked. Completed with valves, less xtals. Brand new new condition. £13 plus freight.

★ METERS, P25 TYPE

0-500 uA., 52/6; 0.100 uA., £3/9/6; 0-1 mA., 45/-; 0-10 mA., 45/-; 0-50 mA., 45/- . Full range of Meters and Multi-Testers available.

★ CO-AXIAL CABLE

UR70 72 ohms, 3/16 inch diam., in 27-yard rolls, £1 plus 7/6 pack and post. In as new condition.

★ COLLINS MODULATION TRANSFORMERS

20 watts, 6,000 ohms p.p. primary, 6,000 ohms secondary. 35/- plus freight.

★ FIVE-INCH C.R.O.

Nagard Model 103, d.c. 10 Mc., 100 mV/CM sensitivity, fully calibrated time base, complete with power supply, £65.

★ PHILIPS TA155 C.R.O.

2 inch c.r.o. tube, £17 plus freight.

★ 80-40 METRE TRANSCEIVER

San Electronics QTR7. Tx: 6BQ5 p.a., 6BQ5 modulator, xtal locked. Rx: Tunes 3.5 to 11 Mc., 1 watt audio output, 230v. a.c., £45.

★ SAL39 AMPLIFIER KLYSTRONS

Pulse Service: 120w. input, 30kw. output, duty cycle 1%, freq. range 960-1230 Mc. C.w. Service: 50w. input approx., 300w. output approx. Ideal tube for 1296 Mc. band. £10 plus freight.

WANTED TO BUY

Communication Receivers, Test Equipment, etc. Call, write or phone. Equipment inspected and picked up at your convenience any night or week-end.

★ MINIATURE CAPACITORS

New shipment. 600 v.w. Values: 0.001, 0.02, 0.005, 0.0005, 0.0002, 0.0001 uF. £1 for 80 plus freight.

★ RESISTORS

1/4 watt, I.R.C., Welwyn, Eire, Ducon, Philips, £1 per 100.

★ CRYSTALS

Personal shoppers only, 10/- each.

★ RELAYS

P.M.G. 3000 type, 500 ohms and 500 ohms d.p.d.t., 7/6 each or 3 for £1.

★ SIGNAL GENERATORS

Type LSG10, 120 Kc. to 260 Mc., £13. Type LSG11, 120 Kc. to 390 Mc., provision for xtal, £15, both plus freight.

★ SPECIALS

813 Beam Tetrodes, 50/- each.

7-pin skirted Valve Sockets, P.T.F.E., insulation, silver plated, only 2/- each, c/w. shield.

★ POWER SUPPLIES

300v. at 150 mA., 6.3v. at 3 amp., fully enclosed, on 19-inch panel, £3, complete with meter £4.

★ C.R.O. TUBES

CV407, 10/- each; CV392, 10/- each.

★ TRANSISTORS

Brand new. OC72, OC44, 2N132, OC66, OC45, 8/- each. AT1138 Power Transistor, 30w., Class B, 30/-. Also Diodes: OA70, OA81, OA95, 3/6 each.

ANY QUERIES

Beginners are welcome, ask Jim and Laurie Gardiner any questions. They are Amateur Radio operators and will be only too pleased to assist.

ALL ITEMS FREIGHT EXTRA

UNITED TRADE SALES PTY. LTD.

280 LONSDALE ST., MELBOURNE, VIC. (Opp. Myers)

Phone 32-3815

the mark of Quality



The early potter was a craftsman of the highest skills, moulding and shaping vases, pots, bowls and other utensils.

As each article was completed the craftsman left his mark on it, by this mark his work was identified and his customers could buy with confidence. His mark came to represent quality and integrity.

In the same way, AWV proudly use their mark to brand their products, a brand which has built up over the years a reputation for excellence and reliability.



AMALGAMATED WIRELESS VALVE CO. PTY. LTD., SYDNEY • MELBOURNE • BRISBANE • ADELAIDE • PERTH • HOBART